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# ROMAN AFRICA

BY

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## CHAPTER I

### FROM 146 B. C. TO 43 B. C.

#### I. POLITICO-ECONOMIC HISTORY

The history of Roman Africa begins in 146 B. C. with the destruction of Carthage and the establishment of the province of *Africa*. A surprisingly small amount of land, some 5,000 square miles, was comprised in the province. Pliny gives Thabraca as the starting point of the boundary (*N. H.*, 5, 22, *Tusca fluvius Numidiae finis*, "the Tusca River is the boundary of Numidia"). Although it may seem strange that the boundary was so far west at its beginning when farther south it was much farther to the east and excluded some remarkably rich land, yet the harbor of Thabraca and the valley of the Tusca River offered a good entrance to the western side of the province. It is possible that the boundary originated farther east and that Thabraca and the Tusca River became the new boundary after Marius had appropriated lands in the Bagradas Valley lying just outside the original boundary (see *infra*). Wherever the boundary started, it passed between Vaga and Tichilla, excluding Vaga on the west and including Tichilla on the east (R. Cagnat et A. Merlin, *Inscriptions latines d'Afrique*, 496; *C. I. L.*, VIII, 25860; 25967; stones erected by the legates of Vespasian who retraced the *fossa regia*, or boundary). The line is generally thought to have turned southwestward after leaving Henchir-Chetlou, the point established by the second of the above inscriptions, and to be marked by a series of stones set up as bounds between the *civitas* of Thugga and an imperial estate called on the stones *Aug N S F R G* (L. Poinssot, in *Comptes rendus de l'Académie des Inscriptions*, 1907, pp. 466-81; *C. I. L.*, VIII, 25988). Since the two other known bounds of Vespasian ([1] *Bulletin archéologique du comité des travaux historiques et scientifiques*, 1935, pp. viii-ix, near Bou Arada, between points 114 and 120 of *Atlas archéologique de la Tunisie*, deuxième livraison, fe. 25, and [2] *C. I. L.*, VIII, 23084, near Abthugni) would form a fairly straight southeast line from the bound at Henchir-Chetlou, it may be that the line ran from Henchir-Chetlou to Bou Arada to Abthugni without the awkward loop which

would be caused if it swung southwest from Henchir-Chetlou, then back northeast to Bou Arada (see *Atl. arch. Tun.*, fe. 25). If so, the line probably ran through the above-mentioned imperial estate. Possibly the S F R G which seems to stand for the name of the estate signified *Saltus Fossae Regiae G . . . anus*. From Abthugni the boundary probably curved gently westward, then eastward again to meet the coast at Thaenae (Pliny, *N. H.*, 5, 25, fossa . . . Thaenam usque perducta, "the boundary . . . traced down to Thaenae"; Ch. Saumagne, "Observations sur le tracé de la 'Fossa Regia,'" in *Rendiconti dei Lincei*, IV [1928], 451-9; this has a useful map).

The city of Carthage was destroyed and its site formally accursed. Such Carthaginians as were captured were sold into slavery (Orosius, 4, 23, 7; Cicero, *Tusc. Disp.*, 3, 22, 53), but some escaped to Numidia (T. R. S. Broughton, *The Romanization of Africa Proconsularis*, pp. 16-17; see "population" in the next chapter). The estates of the Carthaginian landowners and the public land of Carthage were made public land of the Roman people. Four cities which had supported Carthage in the final struggle—Tunis, Neapolis, Clupea, and Neferis—were destroyed (Strabo, 17, 3, 16), and their territory was probably confiscated. The *Lex Agraria* of 111 B. C. speaks of the public land in Africa (e. g., XLIX, LII, LVIII, LXV, LXVII) and we may assume that all land not otherwise disposed of was so regarded.

A considerable amount of land was otherwise disposed of, however. (1) Seven cities—Utica, Theudalis, Uzelis, Thapsus, Acholla, Leptiminus, and Hadrumetum—which had joined the Romans at the beginning of the war were granted full possession of their former territory and classified as *civitates liberae et immunes*. Utica was given some of the conquered territory in addition (Appian, *Pun.*, 135). (2) All the land taken from Carthage by Massinissa before 146, mostly in the valley of the Bagradas (Livy, *Ep.*, 48; Appian, *Pun.*, 68), was confirmed to his heirs, and they were granted the use and possession of certain lands within the province (*Lex Agr.*, LXXXI; Cicero, *De Lege Agraria*, 2, 22, 58). (3) 2,200 Carthaginian soldiers who had deserted to the Romans were given allotments of land (Appian, *Pun.*, 108; Livy, *Ep.*, 50; *Lex Agr.*, LXXV-LXXVI). (4) To those natives who had surrendered to the Romans during the struggle allotments of public land were given, for which they paid a fixed stipendium (Appian, *Pun.*, 135; *Lex Agr.*, LXXVII-LXXVIII, LXXX; Cicero, *In Verrem*, 2,

3, 6, 12, *impositum est vectigal certum, quod stipendiarium dicitur*, "A fixed tax, called stipendiary, has been imposed"). How this tax was collected we do not know. A poll tax was also imposed on them (Appian, *loc. cit.*). We may assume that many natives were killed in the war and that those who remained loyal to Carthage until the end were sold into slavery.

Then, every other interest having been generously considered, the rest of the public land was probably offered for sale to Roman investors. We know only that some land had been sold before 111 B. C. (*Lex Agr.*, XLVI, XLVIII, LXXX). Immediately after the fall of Carthage the Senate ordered a translation made of the agricultural manual written by Mago, a Carthaginian. Pliny, *N. H.*, 18, 22: . . . et Poenus etiam Mago, cui quidem tantum honorem senatus noster habuit Carthagine capta ut, cum regulis Africae bibliothecas donaret, unius eius duodetriginta volumina censeret in Latinam linguam transferenda, cum iam M. Cato praecepta condidisset . . . , " . . . also the Carthaginian Mago, whom our Senate held in such esteem that when after the fall of Carthage it was presenting the libraries to the princes of Africa it decreed that his twenty-eight volumes alone should be translated into Latin, although Marcus Cato had already laid down his rules. . . ." Since many of Mago's precepts did not apply to Italian conditions, the fact that the translation was made at such a time and by the Senate's order suggests that it may have been intended to acquaint prospective buyers of African land with the conditions and possibilities of the new province rather than for use in Italy (the latter is the traditional view; "Mago" in *R.-E.*). Columella, *R. R.*, 1, 1, 6: . . . praecepta rusticationis, quae cum plurima tradiderint Poeni ex Africa scriptores, multa tamen ab his falso prodita coarguunt nostri coloni, sicut Tremelius, qui querens id ipsum tamen excusat, quod Italiae et Africae solum caelumque nequeat eosdem proventus habere, "Although the Punic writers from Africa have handed down a great many instructions, yet our farmers show that many of their rules are incorrect, like Tremelius who complains of this fault but offers the excuse that the soil and climate of Italy and Africa, being of different natures, cannot have the same crops." Cf. 3, 12, 5; 5, 5, 4; *De Arbor.*, 4, 5; 17, 1; Pliny, *N. H.*, 17, 128.

How much land was sold cannot be determined. In 122 Gaius Gracchus could plan to settle 6,000 colonists around Carthage on lots



of 200 iugera each. Practically all of the former public land of Carthage would have been covered by these allotments (W. Barthel, "Römische Limitation in der Provinz Afrika" in *Bonner Jahrbücher*, CXX [1911], 77). Perhaps this land found neither native occupants nor Roman buyers between 146 and 122. Perhaps some of it was rendered vacant by the great pestilence of 124, which Orosius (5, 11; Livy, *Ep.*, 60 gives no figures) says carried off 200,000 people. But, since Orosius is notoriously unreliable, it is useless to try to base a calculation on this figure. Possibly any vacant parts of it had been offered for lease by the censors since 146 (with little success), but the first censorial lease for which we have any evidence is that of 115 (*Lex Agr.*, LXXXV-LXXXIX).

The commercial opportunities created by the destruction of Carthage apparently did not interest the Roman Senate. At the time of her fall Carthage was a rich city (Appian, *Pun.*, 67; Polybius, 18, 18). Her manufactures, however, were of such inferior quality that they could have appealed only to the poorest buyers; the same was true of her wine and perhaps of her oil (Gsell, *Histoire ancienne de l'Afrique du nord*, IV, 106-108; 24-27). Of course with the loss of her overseas possessions she had also lost her former monopoly of trade in them. The prosperity of her latter days was probably based, then, on trade in Cornish tin, gold from the Soudan or Morocco or the Gold Coast, and the carrying of cargoes picked up by roving vessels at various ports. It may be conjectured that after the fall of Carthage the seamen of the other Phoenician cities in Africa, such as Utica and Hadrumetum, were able to get a share of this business. Gades also perhaps acquired a part of this trade after the fall of Carthage.

Strabo, 3, 1, 8: ἔστι δ' ἡ νῆσος αὕτη τᾶλλα μὲν οὐθὲν διαφέρουσα τῶν ἄλλων, ἀνδρεία δὲ τῶν ἐνοικούντων τῇ περὶ τὰς ναυτιλίας καὶ φιλία πρὸς Ῥωμαίους τοσαύτην ἐπίδοσιν εἰς πᾶσαν εὐτυχίαν ἔσχεν, ὥστε, καίπερ ἐσχάτῃ ἰδρυμένη τῆς γῆς, ὀνομαστό-  
τάτῃ τῶν ἀπασῶν ἐστίν.

"This island does not differ at all from the others except that, because of the daring of its inhabitants as sailors, and because of their friendship for the Romans, it has made such advances in prosperity that . . . it is the most famous of them all" (cf. 3, 2, 1; 3, 5, 3).

It is likely that part of the former Carthaginian trade fell into the hands of Italians or of Greeks from Italy after 146 B. C., but we have

no evidence that the Senate wished to help them or Romans in acquiring it. To be sure there were many *negotiatores* in Numidia and Africa at the time of the Jugurthine War, and the number of such traders may well have increased after 146 B. C., but if this is so the reason for the increase may as well have been the increasing importance of foreign grain in the provisioning of Rome as the removal of restrictions on their activity after the fall of Carthage ("Frumentum," in *R.-E.*, VII, 140-142). We learn from Donatus (*Vita Terenti*, 1) that "there was no trading treaty between Italians and Africans except after the destruction of Carthage" (*nullo commercio inter Italicos et Afros nisi post deletam Carthaginem coepto*). Probably non-Roman people from Italy had been free to trade in Africa even before this treaty, however (T. Frank, "On Suetonius' Life of Terence," in *American Journal of Philology*, 54 [1933], 269-273).

The settlement of African affairs, then, gives no indication that the immediate motive for the destruction of Carthage was economic, but there is evidence that it was political.<sup>1</sup> The elder Pliny's anecdote of Cato (*N. H.*, 15, 74-5) is illuminating:

Namque perinitiali odio Carthaginis flagrans nepotumque securitatis anxius, cum clamaret omni senatu Carthaginem delendam, adtulit quodam die in curiam praecocem ex ea provincia ficum, ostendensque patribus: Interrogo vos, inquit, quando hanc pomum demptam putetis ex arbore? Cum inter omnis recentem esse constaret: atqui tertium, inquit, ante diem scitote decerptam Carthagine. Tam prope a moeris habemus hostem. Statimque sumptum est Punicum tertium bellum quo Carthago deleta est. . . .

"For burning with a deadly hatred of Carthage and being uneasy about the security of future generations, he used to clamor in every meeting of the Senate that Carthage must be destroyed. On a certain day he brought into the Curia an early-ripe fig from that province and showing it to the fathers said, 'Let me ask you when you think this fruit was taken from the tree.' When they all agreed that it was

<sup>1</sup> M. I. Rostovtzeff, *Social and Economic History of the Roman Empire*, p. 492, n. 15, asserts that the large Roman landowners, who were specializing in wine and oil and were a very important part of the Senate, had Carthage destroyed to remove her rivalry in the western markets, but does not adduce convincing proof that the Roman senators of that time reasoned in such manner or that the Carthaginians were dangerous competitors.

fresh, he said, 'As a matter of fact it was picked at Carthage two days ago, so near to our walls do we have an enemy,' and immediately the Third Punic War, in which Carthage was destroyed, was undertaken. . . ."

The remarks of Polybius (36, 9), a contemporary observer and a close friend of the Roman general Scipio, are further evidence of the political nature of the Senate's motivation:

"Ὅτι περὶ Καρχηδονίων, ὅτε κατεπολέμησαν αὐτοὺς οἱ Ῥωμαῖοι, καὶ περὶ τῶν κατὰ τὸν Ψευδοφίλιππον κατὰ τὴν Ἑλλάδα πολλοὶ καὶ παντοῖοι διεφέροντο λόγοι, τὰς μὲν ἀρχὰς ὑπὲρ τῶν κατὰ Καρχηδονίους, μετὰ δὲ ταῦτα πάλιν ὑπὲρ τῶν κατὰ τὸν Ψευδοφίλιππον. τὰ μὲν οὖν περὶ Καρχηδονίους ἀμφιδοξουμένας εἶχε τὰς ἀποφάσεις καὶ τὰς διαλήψεις· ἐνιοὶ μὲν γὰρ συγκατήγουν τοῖς Ῥωμαίοις, φάσκοντες αὐτοὺς φρονίμως καὶ πραγματικῶς βουλευσασθαι περὶ τῆς δυναστείας· τὸ γὰρ τὸν ἐπικρεμáμενον φόβον καὶ τὴν πολλὰκις μὲν ἡμφισβητηκυῖαν πρὸς αὐτοὺς πόλιν ὑπὲρ τῆς ἡγεμονίας, ἔτι δὲ καὶ νῦν δυναμένην ἀμφισβητῆσαι σὺν καιρῷ, ταύτην ἐπανελομένους βεβαιῶσαι τῇ σφετέρᾳ πατρίδι τὴν ἀρχὴν νοῦν ἐχόντων εἶναι καὶ μακρὰν βλεπόντων ἀνθρώπων.

"Both about the Carthaginians when they were crushed by the Romans and about the affair of the pseudo-Philip many divergent accounts were current in Greece, at first on the subject of the conduct of Rome to Carthage and next concerning their treatment of the pseudo-Philip. As regards the former the judgements formed and the opinions held in Greece were far from unanimous. There were some who approved the action of the Romans, saying that they had taken wise and statesmanlike measures in defence of their empire. For to destroy this source of perpetual menace, this city which had constantly disputed the supremacy with them and was still able to dispute it if it had the opportunity and thus to secure the dominion of their own country, was the act of intelligent and far-seeing men."

Other sources give us hints of the discussion in the Senate before it resolved to break the power of Carthage. The arguments seem to have been purely political (M. Gelzer, "Nasicas Widerspruch gegen die Zerstörung Karthagos," in *Philologus*, LXXXVI [1931], 261-299).

Regarding economic conditions in the province of Africa from 146 to 122 no direct evidence is available. In 122 B. C. Gaius Gracchus founded *Colonia Junonia* on the site of Carthage.<sup>2</sup> The *Lex Rubria* of

<sup>2</sup> On *Colonia Junonia* see Gsell, *Histoire ancienne de l'Afrique du nord*, VII, 58-65; Broughton, *Romanization*, pp. 19-21; A. Audollent, *Carthage romaine*, pp. 32-37;

123 authorized a colony of somewhat less than 6,000. The formal founding (*deductio*) of the colony apparently took place (*Lex Agraria*, LX-LXI, to be quoted under the discussion of the law), but how many colonists were settled is not known. They were chosen from all over Italy (Appian, *Bell. Civ.*, 1, 24), so that they presumably were not city paupers, but like the colonists chosen for Tarentum and Capua were men of some solidity of character. The charter of the colony was cancelled in the next year, but the colonists who were already settled were allowed to stay with full title to the land (*Lex Agr.*, *ibid.*). *Lex Agraria*, LXI and Sallust, *Bell. Jug.*, 42 imply that more than one colony was planned, but there is no evidence that any other was founded.

*Lex Agraria*, LXI (to be quoted under the discussion of the law) seems to imply that each colonist was to have 200 iugera of land, and a survey of the land, of which evidences are still visible, laid it out in 200-iugera units (see Bloch et Carcopino, *La république romaine*, p. 252). Two hundred iugera is much more than one man could cultivate with help from his sons. The unusual size of the allotments may have been intended as an inducement to emigration. The scarcity of grain in the preceding year which is mentioned by Appian may be a fact (*Pun.*, 136), even though Appian is our only authority for it. If so, the purpose of the colony may have been to develop the land and help stabilize Rome's grain supply. The unusually good character of the colonists and the size of the allotments lend support to the view that Gracchus had such a purpose.

Livy, *Epitome*, 60: Et continuato in alterum annum tribunatu legibus agrariis latis effecit ut complures coloniae in Italia deducerentur, et una in solo dirutae Carthaginis; quo ipse triumvir creatus coloniam deduxit.

"And his tribunician power being continued to the next year, he brought it about by the passage of agrarian laws that several colonies should be founded in Italy and one on the site of Carthage, which had been destroyed; he himself, when he had been made triumvir, founded the colony there."

W. E. Heitland, "A Great Agricultural Emigration from Italy?" in *Journal of Roman Studies*, VIII (1918), 34-52; Rostovtzeff, *Soc. Econ. Hist.*, p. 278, and p. 579, n. 55; Bloch et Carcopino, *La république romaine de 133 à 44 avant J.-C.*, pp. 249, 252, 259-260.

Appian, *Bell. Civ.*, 1, 24: Ὁ δὲ τοῦ δημοκοπήματος ἐκπεσὼν ἐς Λιβύην ἄμα Φουλβίῳ Φλάκκῳ, κάκεινῳ μεθ' ὑπατείαν διὰ τὰδε δημαρχεῖν ἐλομένῳ, διέπλευσεν, ἐψηφισμένης κατὰ δόξαν εὐκαρπίας ἐς Λιβύην ἀποικίας καὶ τῶνδε αὐτῶν οἰκιστῶν ἐπιτηδες ἡρημένων, ἵνα μικρὸν ἀποδημούντων ἀναπαύσασαιτο ἡ βουλὴ τῆς δημοκοπίας. αἱ δὲ τῇ ἀποικίᾳ τὴν πόλιν διέγραφον, ἔνθα ποτὲ ἦν ἡ Καρχηδονίων, οὐδὲν φροντίσαντες, ὅτι Σκιπίων αὐτήν, ὅτε κατέσκαπτεν, ἐπηράσατο ἐς αἰὲ μηλόβοτον εἶναι. διέγραφον δ' ἐς ἑξακισχιλίους ἀντὶ ἐλαττόνων τῶν ὄντων ἐν τῷ νόμῳ, ὥς καὶ τῷδε τὸν δῆμον ὑπαξόμενοι. ἐπανελθόντες τε ἐς Ῥώμην συνεκάλουν ἐξ ὅλης Ἰταλίας τοὺς ἑξακισχιλίους. ἐπιστειλάντων δὲ τῶν ἐν Λιβύῃ τὴν πόλιν ἐπὶ διαγραφόντων, ὅτι λύκοι τοὺς ὄρους Γράκχου τε καὶ Φουλβίου διέρριψαν ἀνασπάσαντες, καὶ τῶν μάντεων τὴν ἀποικίαν ἡγουμένων ἀπαίσιον.

"Having lost the favour of the rabble, Gracchus sailed for Africa in company with Fulvius Flaccus, who, after his consulship, had been chosen tribune for the same reasons as Gracchus himself. It had been decided to send a colony to Africa on account of its reputed fertility, and these men had been expressly chosen the founders of it in order to get them out of the way for a while, so that the Senate might have a respite from demagogism. They marked out the city for the colony on the place where Carthage had formerly stood, disregarding the fact that Scipio, when he destroyed it, had devoted it with solemn imprecations to sheep-pasturage for ever. They assigned 6000 colonists to this place, instead of the smaller number fixed by law, in order further to curry favour with the people thereby. When they returned to Rome they invited the 6000 from the whole of Italy. The functionaries who were still in Africa laying out the city wrote home that wolves had pulled up and scattered the boundary marks made by Gracchus and Fulvius, and the soothsayers considered this an ill omen for the colony."

Appian, *Pun.*, 136: Χρόνῳ δ' ὕστερον, Γαίου Γράκχου δημαρχοῦντος ἐν Ῥώμῃ καὶ στάσεων οὐσῶν ἐξ ἀπορίας, ἔδοξε κληρούχοις ἐς Λιβύην πέμπειν ἑξακισχιλίους, διαγραφομένων δ' ἀμφὶ τὴν Καρχηδόνα τῶν θεμελίων λύκοι τὰ θεμέλια ἀθρόα διέσπασαν καὶ συνέχεαν.

"Some time later, in the tribunate of Gaius Gracchus, uprisings occurred in Rome on account of scarcity, and it was decided to send 6000 colonists into Africa. When they were laying out the land for this purpose in the vicinity of Carthage, all the boundary lines were torn down and obliterated by wolves."

Plutarch, *Gaius Gracchus*, 10, 2: ἐπεὶ δὲ Πουβρίῳ τῶν συναρχόντων ἐνὸς οἰκίζεσθαι Καρχηδόνα γράψαντος ἀνηρημένην ὑπὸ Σκιπίωνος, κλήρῳ λαχὼν ὁ Γάιος ἐξέπλευσεν εἰς Λιβύην ἐπὶ τὸν κατοικισμὸν.

"And now Rubrius, one of his colleagues in the tribuneship, brought in a bill for the founding of a colony on the site of Carthage, which had been destroyed by Scipio, and Caius, upon whom the lot fell, sailed off to Africa as superintendent of the foundation."

*Ibidem*, 11, 1-2: 'Εν δὲ τῇ Διβύῃ περὶ τὸν τῆς Καρχηδόνης κατοικισμόν, ἣν ὁ Γάιος Ἰουνωνίαν, ὅπερ ἐστὶν Ἡραίαν, ὠνόμασε, πολλὰ κωλύματα γενέσθαι παρὰ τοῦ δαιμονίου λέγουσιν. . . . οὐ μὲν ἀλλὰ πάντα συντάξας καὶ διακοσμήσας ὁ Γάιος ἡμέραις ἑβδομήκοντα ταῖς πάσαις ἐπανῆλθεν εἰς Ῥώμην.

"In Africa, moreover, in connection with the planting of a colony on the site of Carthage, to which colony Caius gave the name Junonia (that is to say, in Greek, Heraea), there are said to have been many prohibitory signs from the gods. . . . Notwithstanding this, Caius settled and arranged everything in seventy days all told, and then returned to Rome. . . ."

The years from 121 to 111, the date of the passing of the *Lex Agraria*, are almost a blank. In 115 the censors leased some of the public land (*Lex Agr.*, LXXXV, LXXXVII, LXXXVIII). It is probable that earlier censors had been able to lease some of it, but there is no evidence.

That part of the *Lex Agraria* which deals with African land provides in general for the protection of existing rights and for the sale or lease of all the land possible. *C. I. L.*, I<sup>2</sup>, 585; C. G. Bruns, *Fontes juris romani antiqui*,<sup>7</sup> pp. 82 ff.; and P. F. Girard, *Textes de droit romain*,<sup>8</sup> pp. 46-61 offer texts of the law. Mommsen's commentary can be found in *C. I. L.* and in his *Gesammelte Schriften*, I, 96-145. E. G. Hardy, *Six Roman Laws*, pp. 35-85 gives a commentary and translation; his translation is used in the following passages:

XLVI . . . quod eius agri loci quoieique emptum est. . . .

" . . . whatever portion of such land or ground has been sold to any person. . . ."

This passage, the context of which cannot be recovered, implies sales of land at some earlier time.

XLIX . . . isque ager locus privatus vectigalisque u . . . tus erit;

"and the said land or ground shall be private land, but subject to a vectigal."

The amount of the vectigal is not stated.

LX-LXI . . . neve unius hominis [nomine, quoi . . . colono cive, quei in colonei nu]mero scriptus est, agrum quei in Africa est, dare oportuit licuitve, amplius iug(era) CC in [singulos homines data adsignata esse fuiseve iudicato . . . neve maiorem numerum in Africa hominum in coloniam coloniasve deductum esse fu]iseve iudicato quam quantum numer[um ex lege Rubria quae fuit . . . a IIIviris coloniae dedu]cendae in Africa hominum in coloniam coloniasve deduci oportuit licuitve.

" . . . nor in respect to land situate in Africa which in accordance with the aforesaid law might properly or lawfully be given to an individual, being a colonist or registered as a colonist, shall he, if such land exceed 200 jugera for each individual, adjudge such land to be given or assigned; nor shall he adjudge a larger number of individuals to be or to have been included in the colony or colonies in Africa than the number specified as proper and lawful in accordance with the Lex Rubria, since repealed, by the triumvirs appointed to establish such colony or colonies in Africa."

This section safeguards the State against excessive claims by former colonists, their heirs or their assigns.

LXV-LXIX contain elaborate provisions for the assignment of land to reimburse (1) any colonist who shall find that his land has been sold, (2) any buyer who finds that his land has been assigned to a colonist. LXXV-LXXIX similarly protect (3) the free cities, (4) the Carthaginian deserters, (5) the natives holding land as stipendiaries. Of course these provisions are chiefly to prevent injustices arising from mistakes, but they also suggest that the framer of the law expected large blocks of land to be bought, so that here and there the holders of single plots would have to move.

Sections LXXIX-LXXXI classify all the land in Africa except the public land. They confirm the rights of all holders of land under various titles. The original territory of Utica is mentioned separately several lines further along, suggesting that its status was different.

LXXXII ceterum agrum omnem, quei in Africa est, quei de eo agro vectigal decumas scripturamve pro pecore populo aut publi-

cano dare debebunt, quei ager eis ex h. l. datus redditus commutatus erit, habeant possideant fruanturve et pro eo agro loco vectigal decumas scripturamve, quod post h. l. fruetur, populo aut publicano dent. . . .

"In respect to all other land in Africa, the duovir, appointed or created by this law, shall, within 250 days after the ratification of this law by the people or plebs, take steps that those persons who in respect to such land shall be bound to pay to the people, or to a tax farmer, vectigal, tithes, or fee for cattle, shall hold, possess, or enjoy all land granted, rendered or given in compensation in accordance with this law, and that for all enjoyment of such land or ground subsequent to this law they shall pay to the people, or to a tax farmer, vectigal, tithes, or fee for cattle."

This section provides for the collection of a vectigal on land bought in the sale contemplated by the law, of tithes on land held by the natives, and of fees for cattle pasturage. Apparently whatever land could not be sold outright was to be rented; the best farming land was probably sold and the poorer land rented and used largely for grazing. Sections LXXXV-LXXXVI provide that rents shall not be raised above the rate set by the censors of 115 B. C. This clause apparently was for the protection of those who might commit themselves to commercial cattle raising. They were not holders of titles by usage, like most Roman *possessores*, but by the permission of the people (XCI) or the Senate (XCIII). The state could resume title to their holdings at any time, however.

It is impossible to determine how much land was for sale and how much was sold. The province was not very large, and the land of the free cities, the stipendiary natives, the Carthaginian deserters, and the colonists who had stayed on after the charter of Colonia Junonia was cancelled was not available for sale. We have no means of knowing how many natives died in the plague of 124 B. C. or how many colonists stayed on. At any rate, there was enough land to make it worth while to frame detailed regulations for the sale.

It is also impossible to determine the proportion of large and small blocks of land sold. The discussion of this question will be found under the discussion of *property*.



The next accretion to the Roman territory in Africa was a part of Numidia. The evidence seems to indicate that Marius settled a large number of his soldiers (probably about two legions) there after his final victory over the Germanic invaders of Italy (Aurelius Victor, *De viris illustribus*, 73, 1: Lucius Apuleius Saturninus, . . . ut gratiam Marianorum militum pararet, legem tulit, ut veteranis centena agri iugera in Africa dividerentur; "L. Apuleius Saturninus . . . to gain popularity with the soldiers of Marius, had a law passed that a hundred iugera apiece in Africa should be given to the veterans"). The other evidence for this colonization is discussed in detail by T. Frank, "The Inscriptions of the Imperial Domains of Africa," *Am. Journ. Phil.*, XLVII (1926), 55-73, and Broughton, *Romanization*, pp. 32-39. It has been suggested that the epigraphical evidences of Marian influence in this region may be the result of Marius' settlement of some of his Gaetulian allies somewhere in Numidia rather than of a settlement of Roman veterans (Gsell, *Hist. anc.*, VII, 10; see the discussion of this and the preceding view by F. Heichelheim in *Philologische Wochenschrift*, XLIX [1929], 1150). It is more likely that the Gaetuli were settled in the southern part of the province, west of the region from Hadrumetum to Thaenae (Saumagne, "Observations sur le tracé de la 'Fossa Regia,'" in *Rend. dei Lincei*, IV [1928], 451-9). Apparently a number of Marian veterans were sent as colonists to the island of Cercina at about this time (Frank, "The New Elogium of Julius Caesar's Father," in *Am. Journ. Phil.*, LVIII [1937], 90-93).

The new boundary apparently ran from Thabraca up the Tusca River, passed east of Bulla Regia, and swung around to the south of Thugga to join the original boundary a little to the southeast of Thugga. The land was held *iure Quiritium*; naturally this fact made it more attractive than the land in the original province, which was subject to a *vectigal*, and we shall see that large estates presently grew out of the individual holdings and that the best-known estates of the imperial period were in this region (see *infra*). It may well be that many of these settlers or their descendants lost their land as a result of opposing Pompey in his campaign in Africa as Sulla's lieutenant.

In 46 B. C. Julius Caesar, victorious over his republican adversaries, made a new province of the kingdoms of their allies Massinissa and Juba I (Gsell, *Hist. anc.*, VIII, 156 ff.), doubtless on grounds of military and political necessity. Bocchus, king of eastern Mauretania,

was given territory which probably brought his eastern boundary to the Ampsaga River. The adventurer Sittius was presented by Caesar with a large territory running eastward from the Ampsaga to somewhere east of Rusicade (Appian, *Bell. Civ.*, 4, 54; cf. "Sittius" no. 3, in *R.-E.*). On his death in 44 B. C. this territory seems to have been joined to the province of Numidia. Caesar boasted that the new province would give the Roman people a rich yield (Plutarch, *Caesar*, 55; see under "cereals" for text and translation). We cannot tell whether this yield was to be in the form of a fixed tribute, a tithe, or the income of the crown lands of the Numidian kings (cf. Gsell, *Hist. anc.*, V, 153, 191-2, 201).

In the year 33 B. C. Bocchus, king of Mauretania, died. A few years before he had conquered the kingdom of Bogud, which extended from his own to the Atlantic. This large tract fell into the hands of the Romans at his death. Whether it became a province or not is not ascertainable ("Mauretania," in *R.-E.*, XIV<sup>2</sup>, 2371). Eight years later Augustus established Juba II as its king. It was to return to the Romans as a province in 40 A. D.

## II. NATURAL PRODUCTS

A detailed discussion of the economic geography of Roman Africa is given by Gsell, *Hist. anc.*, I, 1-176. See also C. Rivière et H. Lecq, *Traité pratique d'agriculture pour le nord de l'Afrique*. Geographical data will be given in the following pages where necessary.

The Carthaginians and Massinissa, Numidia's great king, had laid a good foundation for the agriculture of the republican period. The Carthaginians had developed the best land in the region that became the province of Africa (Gsell, *Hist. anc.*, II, 93-181 and IV, 1-52; Broughton, *Romanization*, pp. 1-12). The region around the Punic coastal cities, which were well developed and in touch with the world, was open to the influences of civilization. Many Carthaginian grandees had had estates near the city, scientifically farmed, as we may conjecture from the excellence of Mago's precepts, and producing many products of the soil, as well as horses, cattle, honey, poultry, and the products of the aviary. The valleys of the Bagradas and Miliana Rivers were farmed by natives who were fairly well subdued and settled. The large number of towns in the region and their prosperity

indicate that the natives had become skillful farmers. On the other hand, the region of hills and steppes beyond had not been deeply affected by the influence of the Carthaginians. The southern part was inhabited by nomads, who were probably allowed to come north during the summer when the heat and lack of rain spoiled the pasturage in the desert regions of the South.

The Carthaginians had also done good work, although indirectly, in civilizing the kingdom of Numidia (Gsell, *Hist. anc.*, III, 305-8; V, 162, 187-8). Massinissa improved the condition of his kingdom by his introduction of Carthaginian agricultural techniques, and his realm contained some flourishing regions when Julius Caesar annexed it to the original province (see *supra*). After the Third Punic War Massinissa's successors apparently welcomed a number of Punic refugees, who settled around Mactar, Thugga, and westward, and doubtless played a part in the later development of Numidia (Broughton, *Romanization*, p. 10).

Wheat and barley were the most important cereals of North Africa in ancient times. Several regions were suited to their cultivation: part of the eastern seaboard of Tunis (Byzacium), the central plateau of Tunisia with its surrounding valleys, the valleys of the Bagradas and Miliana Rivers, the plains of Ghardimaou and Dakhla, of Sétif, Guelma, and Souk Ahras, and those south of Constantine, the plateaus of Tiaret and of the Sersou, south to southeast of Orléansville, the plain of Sidi bel Abbès, south of Oran, some of the region of Saïda and Tagremaret, and the plateaus of western Morocco. These regions are mostly comparatively flat, but in the more mountainous regions many small valleys could also be used for cereals.

Our evidence about cereals is of two types—evidence which is rather general and that which enables us to determine with some certainty where cereals were grown at one time or another. The general evidence will be given first.

The Carthaginians had developed a goodly production of cereals before their fall, as we learn from notices of their furnishing wheat to the Romans (Livy, 30, 16, 11; Polybius, 15, 18, 6; Livy, 31, 4, 6; 31, 50, 1; 36, 4, 5-6, 9; 43, 6, 11). There are notices of gifts of wheat from Massinissa (Livy, 31, 19, 4; 32, 27, 2; 36, 4, 8; 42, 29, 8; 43, 6, 13). There were Italians in Carthage in 149 B. C., just before the outbreak of the Third Punic War. It is not certain what they were

doing, but they probably were merchants, and it may be that they were interested in grain. Although the Romans had no trading treaty with Massinissa at this time (Donatus, *Vita Terenti*, 1: *nullo commercio inter Italicos et Afros nisi post deletam Carthaginem coepto*, "although there was no trading treaty between Italians and Africans except after the destruction of Carthage"), yet non-Roman people from Italy were probably free to trade with Numidians (T. Frank, "On Suetonius' Life of Terence," in *Am. Journ. Phil.*, LIV [1933], 269-273). Possibly, then, some of these men were making Carthage a base for trade with Numidians, and cereals probably were one element of the trade.

The founding of Colonia Junonia in 122 seems to have had as one of its objects an increase of the grain supply for Rome, and doubtless many of the colonists who remained on their allotments after the cancellation of the charter of the colony devoted themselves to cereal culture, since that territory was suited to it (see *infra*). The colonial land which was given up and such other public land as was unoccupied was offered for sale under the *Lex Agraria* of 111 B. C. Part of this, too, was suited to cereals and was doubtless so used by its purchasers. We can only guess at the extent of commercial agriculture in the early years of the province. It is significant, however, that Sallust remarks three times that supplies for the armies operating against Jugurtha were collected in Rome (*Bell. Jug.*, 36, 1; 43, 3; 100, 1) and that Metellus was much interested in capturing Vaga, the center of a good grain-producing region (*ibid.*, 47, 1-2). Presumably the Romans received some grain as stipendium from the natives in the province, for cash must have been rather scarce among the natives.

We have the testimony of Sallust that during the Jugurthine War there were many Italian business men in Numidia. As with the Italians in Carthage, we can only guess at their business, but it is a reasonable presumption that they were chiefly interested in finance, cereals, and animals for the games at Rome. Sallust, *Bell. Jug.*, 21, 2: *multitudo togatorum* (*togatorum* is doubtless an anachronism), and 26, 1: *Italici, quorum virtute moenia defensabantur* (at Cirta), "the Italians by whose courage the walls were defended"; 47, 1: *ubi et incolere et mercari consueverant Italici generis multi mortales* (at Vaga), "where many Italians were accustomed to live and trade." Marius, when he was scheming to succeed Metellus as commander of the army opposing Jugurtha, sought support among the business men

in Utica, whose profits apparently were being lessened by the continuance of warfare in Numidia.

Sallust, *Bell. Jug.*, 64, 5: . . . apud negotiatores, quorum magna multitudo Uticae erat, criminosae simul et magnifice de bello loqui. . . .

" . . . among the business men, of whom there were a great many at Utica, he talked accusingly and boastfully about the war. . . ."

*Ibidem*, 65, 4: Itaque et illum et equites Romanos, milites et negotiatores, alios ipse, plerosque pacis spes impellit, uti Romanum ad suos necessarios aspere in Metellum de bello scribant, Marium imperatorem poscant.

"Thus partly the influence of Marius himself and partly the hope of obtaining peace induced . . . most of the Roman knights, both soldiers and merchants, to write to their friends at Rome in a style of censure respecting Metellus' management of the war and to demand that Marius should be appointed general." Cf. Velleius Paterculus, 2, 11.

Our general evidence on cereals during the first century B. C. is scanty, but it implies a great deal. Cicero (*De Imperio Cn. Pompei*, 12, 34) says of Pompey's clearing the sea of pirates in 67: qui . . . Siciliam adiit, Africam exploravit, inde Sardiniam cum classe venit atque haec tria frumentaria subsidia rei publicae firmissimis praesidiis classibusque munivit, "he . . . went to Sicily, explored the coasts of Africa; thence he came with his fleet to Sardinia, and these three great granaries of the republic he fortified with powerful garrisons and fleets." Eleven years later Pompey again visited Africa in pursuit of his duties as manager of the grain supply (Plutarch, *Pompey*, 50). In 39 B. C. the struggles of the government with Sextus Pompey blocked the sea and caused a grain shortage at Rome.

Appian, *Bell. Civ.*, 5, 67: 'Ρωμαίους δ' ὁ λιμὸς ἐπίαζεν, οὔτε τῶν ἐφ' ὧν ἐμπόρων ἐπιπλεόντων δέει Πομπηίου καὶ Σικελίας, οὔτε τῶν ἐκ δύσεως διὰ Σαρδῶν καὶ Κύρνον ἐχομένας ὑπὸ τῶν Πομπηίου, οὔτ' ἐκ τῆς περαιᾶς Λιβύης διὰ τοὺς αὐτοὺς ἐκατέρωθεν ναυκρατοῦντας. ἐπετίμητο δὴ πάντα.

"Now famine fell upon Rome, since the merchants of the Orient could not put to sea for fear of Pompeius, who controlled Sicily, and those of the West were deterred by Sardinia and Corsica, which the lieutenants of Pompeius held, while those of Africa opposite were pre-

vented by the same hostile fleets, which infested both shores. Thus there was a great rise in the cost of provisions."

Varro, in 36 B. C., wrote (*De Re Rustica*, 2, Praef., 3): . . . frumentum locamus qui nobis advehat, qui saturi fiamus, ex Africa et Sardinia, ". . . we contract with people to bring us the grain, whereby we may grow fat, from Africa and Sardinia."

The second part of our evidence is the data on specific regions. The chief grain-producing regions during the Republic as well as during the Empire were the valleys of the Bagradas and Miliana Rivers. Some of this territory lay outside the proconsular province, to be sure, but it was none the less a part of the Roman economy. Unfortunately cereal culture leaves few traces for the archaeologist to discover, and the literary and epigraphical sources offer little definite evidence, so that recourse must be had to indirect evidence in determining where cereals were grown. First, there is the evidence given above that a great deal of wheat came from "Africa." The proconsular province and Numidia must have been the sources of this grain. Secondly, the above-mentioned regions are now the best cereal regions in eastern Africa (Rivière et Lecq, *Traité pratique d'agriculture pour le nord de l'Afrique*, pp. 226-7; Gsell, *Hist. anc.*, I, 164; C. Monchicourt, *La région du Haut Tell en Tunisie*, pp. 26, 30, 32, and carte économique). Thirdly, these regions had a number of cities and towns which had no other visible means of support than cereal culture.

There are a few pieces of evidence, most of them not conclusive, which help us further to delimit this region. In 204 Scipio Africanus, who was invading Africa, collected grain from the fields around Utica (Livy, 29, 36, 1). Polybius tells us that Massinissa persuaded many of his people to settle down to sedentary life (36, 16, 7-8), and the Bagradas valley in Numidia was doubtless one settled region. We find that when Metellus, in the Jugurthine War, started into Numidia, he went into a cultivated country. Sallust, *Bell. Jug.*, 46, 5: pecora cultoresque in agris erant . . . praefecti regis obvii procedebant, parati frumentum dare, "there were flocks and tillers in the fields . . . the prefects of the king came to meet him, ready to give him grain." This presumably was the region where the Marian soldiers were settled after the war. Vaga, which was not far away, apparently was an important grain center. *Bell. Jug.*, 47, 1-2: . . . Vaga, forum rerum venalium

totius regni maxime celebratum, ubi et incolere et mercari consueverant Italici generis multi mortales . . . praeterea imperavit frumentum et alia quae bello usui forent comportare. ". . . Vaga, the busiest market of the whole kingdom, where many Italians were accustomed to live and trade. Further he ordered grain and other sinews of war to be brought together." Possibly the cultivated area went as far west as Bulla Regia, which was one of the capital cities of the Numidian kingdom in 80 B. C. (Orosius, 5, 21, 14). Massinissa is said to have taken over a hundred and twenty villages in the Bagradas valley from Carthage (Livy, 42, 23; Appian, *Pun.*, 68). Although we have no names of any of them, we may conclude that the valley was populous and prosperous, probably because of cereal culture.

Cereals were presumably cultivated to some extent in the valley of the river Kralled, which is a confluent of the Bagradas. This valley is well suited to cereal culture. It probably was the *locus Numidiae opulentissima* (*Bell. Jug.*, 54, 6) through which Metellus' army swept before the attempted capture of Zama. Zama was too strong a town for the Romans to take. *Bell. Jug.*, 57, 1 describes it as in campo situm . . . nullius idoneae rei egens, "situated on a plain . . . lacking no advantage." Sicca Veneria also existed then. *Bell. Jug.*, 56, 3: cognoscit Marium . . . frumentatum . . . Siccam missum, "he learned that Marius had been sent to Sicca to forage." *C. I. L.*, VIII, 11824 (third century A. D.) testifies to cereal culture at Mactar.

Presumably the southern boundary of the cultivated region in this valley was about at Mactar or Zama, for Metellus had a fifty-mile march through barren regions to Thala. *Bell. Jug.*, 75, 2: quamquam inter Thalam flumenque proximum in spatio milium quinquaginta loca arida atque vasta esse cognoverat, "although he knew that there was fifty miles of dry and desert country between Thala and the nearest river." Metellus doubtless marched to Thala from the north, and either Zama or Mactar was about forty Roman miles to the northeast as the crow flies.

Since the Miliana Valley was another suitable region and was well situated for secure cultivation, we may assume that it was a cereal region during the Republic. The above-mentioned inscription testifies to cereal culture there.

Another suitable region which was doubtless used in republican times is the plain south of Cirta. The Italians who helped defend it

against Jugurtha (see *supra*) may have been bankers or traders in wild animals or other commodities, but some of them must have traded in grain. Again we have the testimony of the above-mentioned inscription.

When Caesar annexed the eastern part of Numidia at the end of the Civil War in Africa he announced to the populace that the new province would yield a tribute of 1,200,000 modii of grain annually.

Plutarch, *Caesar*, 55: Ἀλλὰ γὰρ ὡς ἐπανῆλθεν εἰς Ῥώμην ἀπὸ Λιβύης, πρῶτον μὲν ὑπὲρ τῆς νίκης ἐμεγαληγόρησε πρὸς τὸν δῆμον, ὡς τοσαύτην κεχειρωμένος χώραν ὅση παρέξει καθ' ἕκαστον ἐνιαυτὸν εἰς τὸ δημόσιον σίτου μὲν εἴκοσι μυριάδας Ἀττικῶν μεδίμνων, ἐλαίου δὲ λιτρῶν μυριάδας τριακοσίας.

"But to resume, when Caesar came back to Rome from Africa, to begin with, he made a boastful speech to the people concerning his victory, asserting that he had subdued a country large enough to furnish annually for the public treasury two hundred thousand Attic medimni of grain, and three million pounds of olive oil."

Twenty square miles would produce this much grain; whether the amount was a tithe or some other proportion or the whole production of some part of Numidia cannot be ascertained. Possibly it was the revenue of grain from King Juba's royal properties, made *ager publicus*. *Bell. Afr.*, 97, 1: *vectigalibus regiis locatis* refers to the arrangement of the revenue from those properties. Possibly this grain was to come from the plains of Souk Ahras and of Guelma, which are suited to cereal culture. The oil mentioned in the passage from Plutarch evidently was the fine which Caesar imposed upon Lepcis (see *infra*).

Probably the Cap Bon peninsula, east of Carthage, was a cereal region during the Republic. The peninsula falls into two natural regions, the north better suited to cereals, the south to olives. The shippers of Missua had an office at Ostia in the second century (see *infra*) and probably before. Clupea and Neapolis, which were destroyed in 146 B. C., had been rebuilt before the Civil War (*Bell. Afr.*, 2, 6; 3, 1 mentions them). Presumably their chief source of support was the grain trade.

Byzacium, the region around Hadrumetum, is praised for its fertility by Varro (*De Re Rustica*, 1, 44, 2) and Pliny (*N. H.*, 5, 24; 17, 41; 18, 94-5). Their assertions that the yield in Byzacium was a hundred or a hundred and fifty for one must of course be rejected.



Possibly there was an unusually high yield in a few oases; Pliny, *N. H.*, 18, 188-9, describes vividly the fertility of the oasis of Tacapae.

Caesar's army operated in this region during the Civil War, and the *Bellum Africanum* gives us some data on cereals. 9, 2: a raid among the large farms (*circum villas*) near Ruspina yielded a large amount of wheat. 20, 4: . . . *priore anno enim propter adversariorum dilectus, quod stipendiarii aratores milites essent facti, messem non esse factam.* ". . . for the year before there had been no harvest because of the levies of his adversaries, because the stipendiary cultivators had been made soldiers." This implies that cereal culture was a regular practice there. 36, 2: *Legati interim ex oppido Thysdro, in quod tritici modium milia CCC comportata fuerant a negotiatoribus Italicis aratoribusque, ad Caesarem venere.* "Envoys came in the meantime to Caesar from the town of Thysdrus, to which three hundred thousand modii of wheat had been taken by the Italian merchants and the farmers." It is of course possible that this wheat was produced elsewhere. The town of Thysdrus evidently was not a flourishing one at that time. 97, 2: *Thysdritanos propter humilitatem civitatis certo numero frumenti multat,* "he fined the people of Thysdrus a certain amount of grain because of the insignificance of their city." 67, 2: at Aggar, about 7 km. inland from Sullethum, he found much barley, oil, wine and figs, but little grain. The rainfall diminishes steadily as one goes farther south, and it may be that at about this point (which was slightly north of Thysdrus) the ancients found that it was better to grow products which require less rain than wheat does. 67, 1: Aggar had often been attacked by the Gaetuli. Apparently there was little settled life south of this point.

Some 30 km. above Hadrumetum on the coast was *Horrea Caelia*, an unimportant town. The name implies that there was a granary there, and remains of magazines have been found there (*Atlas archéologique de la Tunisie*, fe. 49, no. 126). It may be that grain was grown nearby and was shipped from this point. Possibly the large estates owned by Cicero's friend Caelius Rufus (*Pro Caelio*, 30, 72) gave the place its name.

Byzacium surely cannot be considered the equal of the Bagradas and Miliana valleys as a cereal region, and indeed we find that under the Empire it was used more for olives. Nowadays (and probably then) the rainfall will not support the crops unless they are seeded with

unusually wide spaces, and even so the crop often fails (Gsell, *Hist. anc.*, IV, 12).

That there was some production of cereals in Mauretania before imperial times seems to be proved by the fact that wheat is represented on coins of Tingi, Rusaddir, Tamuda, Zili, Lixus, and Sala (L. Müller, *Numismatique de l'Afrique*, III, 216 ff., 233, 242-252; *Suppl.*, 215 a, 233 a). There is no evidence that agriculture was as well developed in Mauretania as it was in the proconsular province and in Numidia.

Wine was a minor product of Africa during the Republic. The Carthaginians had produced it, although neither the quantity nor the quality was remarkable (Gsell, *Hist. anc.*, IV, 24-27). One wine jar from Campania dated before the Third Punic War has been found at Carthage (*C. I. L.*, VIII, 22637, 62). There are many of similarly early date from Rhodes, giving better evidence that there was import of Rhodian wine to Carthage (Rostovtzeff, "Rhodes, Delos, and Hellenistic Commerce," in *Cambridge Ancient History*, VIII, 628-9). Presumably most of the Carthaginian vineyards were near the city and were destroyed in the Third Punic War, and it is likely that few of them were reconstituted. Section XCV of the *Lex Agraria* has a disconnected reference to wine or oil that may be produced on certain land, probably public land. *Bell. Afr.*, 67, 2 informs us that at Aggar, near Leptis, Caesar captured a large amount of wine. Probably Africa did not export wine, unless perhaps the raisin wine (*passum*) which Pliny says was well liked (*N. H.*, 14, 81). There is no evidence that Numidia was a wine-producing country before the Christian era.

Olives may be grown in a great many regions of North Africa. The Carthaginians were expert in the production of the olive, presumably around Carthage and on a capitalistic basis. Many olive orchards must have been destroyed during the Third Punic War. There is no evidence that Numidia was an olive-producing country before our era.

After the fall of Carthage the production of oil in the province was not large. It is mentioned, together with wine, in section XCV of the *Lex Agraria*, and in the *Bell. Afr.*: 50, 1, *olivatum vetus crebris arboribus condensum*, "an old olive-orchard thick with closely-planted trees" (south of Hadrumetum); 67, 2, *magno invento . . . olei . . . numero*, "a large amount of oil was found" (at Aggar).

Lepcis, however, was fined 3,000,000 pounds (1,067,800 litres) of oil, to be paid annually, by Julius Caesar after the war in Africa in

46 B. C. (*Bell. Afr.*, 97, 3: *Lepeitanos . . . XXXcentenis milibus pondo olei in annos singulos multat*. Also see Plutarch, *Caesar*, 55, quoted under "cereals"). Unfortunately it is not possible to base an accurate calculation of the annual production on this figure (cf. S. Gsell, "L'huile de Leptis," in *Rivista della Tripolitania*, I [1924-25], 41-46).

Other edible products of the soil, such as vegetables and minor fruits, were of less economic importance. They will be listed in the list of products of the imperial period.

We have no evidence for flax during the Republic, but Xenophon (*Cyn.*, 2, 4) recommends Carthaginian flax for nets, and Grattius later (*Cyn.*, 34 ff.) recommends the linen made from the flax of the swamps of the Cinyps for the same purpose.

The *Lex Agraria* (LXXXII-LXXXIX) implies that cattle were being pastured on the public land in some numbers. The Carthaginians had successfully raised horses, cows, sheep, and goats (Polybius, 12, 3, 3-4; Gsell, *Hist. anc.*, IV, 37-44). The Numidian horses were famous; the other animals were also raised there (Gsell, *Hist. anc.*, V, 174-186). Sallust, *Bell. Jug.*, 44, 5 and *Bell. Afr.*, 26, 6 mention cattle in passing. There is no other evidence for cattle-raising under the Republic.

There is evidence that commercial fishing flourished along the coast of Africa and that the shellfish from which was made the famous purple dye was found there; the evidence for both will appear in the section on the Empire, but the trade must have continued from Carthaginian days through the Republic. Tibullus, 2, 3, 58 mentions the purple dye.

Two distinctive products of Africa were wild animals for the games and citrus-wood tables. The references to African animals are as follows: Plautus, *Poenulus*, 1011-12 (c. 190 B. C.): *Non audis? mures Africanas praedicat in pompam ludis dare se velle aedilibus*. "Don't you hear? He says he wants to give the aediles 'African mice' [probably panthers] for a procession for the games." In 168 B. C. sixty-three African panthers were exhibited (Livy, 44, 18, 8). In 99 B. C. the curule aedile Claudius Pulcher staged the first elephant hunt in the circus (Pliny, *N. H.*, 8, 19). Q. Mucius Scaevola arranged a lion hunt in 104 (*ibid.*, 8, 53). Pliny tells in Book 8 of other notable spectacles. In 79 there was an elephant-bull battle (19). In 93 Sulla

showed 100 lions attacked by African hunters; his friend King Bocchus of Mauretania had sent both lions and hunters (53, and Seneca, *De Brevitate Vitae*, 13, 6). In 61 bears (131) and in 58 panthers (64) were shown. Pompey showed huge droves of animals at the opening of his theater in 55 (Cassius Dio, 53, 27, 6) and Augustus did the same (Pliny, *N. H.*, 8, 64). (See Cassius Dio, 39, 38, 2; Plutarch, *Pompeius*, 52.) Many of these animals must have been presented by friendly kings like Bocchus, but doubtless the steady demand made the capture of wild beasts a profitable commercial pursuit. Of course the elephants were hunted for their ivory (Gsell, *Hist. anc.*, I, 79, n. 9). Apparently Barbary apes (*Simia sylvanus*, distinguished by having no tail), whose only native habitat is North Africa, were exported for pets. Martial, 14, 202, *si mihi cauda foret, cercopithecus eram*, "if I had a tail, I should be a tailed monkey" (a tag for a gift). Athenaeus, *Deipn.*, 12, 518f. tells of some men who came to Massinissa to buy apes. Etruscan, Greek, and Roman art objects have many representations of the Barbary ape (W. C. McDermott, *The Ape in Antiquity*, soon to be published by the Johns Hopkins Press).

The craze for table tops made of one large piece of citrus-wood from Mauretania began toward the end of the Republic. Cicero paid 500,000 sesterces (\$25,000) for one, and prices of 1,000,000, of 1,200,000, and 1,300,000 are recorded by Pliny (*N. H.*, 13, 92-3). He remarks that the best large trees were all gone by his day. For the numerous references to these tables in literature see "Citrus" in *R.-E.*

The little mining done by the Romans in Africa will be discussed under the Empire. The famous marble of Simitthus was first seen in Rome in 78, when the consul Lepidus used a little in his house (Pliny, *N. H.*, 36, 49). Simitthus was still in Numidian territory at the time, and the expression "*officina regia*," "the royal quarry," which forms part of the quarry mark on two stones dated 150 A. D., suggests that one quarry in use at the later date had originally been worked as a royal property of the Numidian kings. Apparently the quarry region of Simitthus became public property of the Roman people in 46 B. C., when Numidia became a province (see under the Empire).

### III. INDUSTRY, COMMERCE, LABOR, AND MONEY

*Industry* seems to have amounted to little under the Romans. The only products that we know of are cheap articles of pottery (Gsell, *Hist. anc.*, VII, 105-106).

*Commerce* also was dull, except in cereals, which were exported in large quantities (see the discussion of *cereals*), and in wild animals for the games at Rome. We know that a number of Italians and Romans had business affairs in Africa, but we cannot always tell whether they were interested in land, trade, or banking. In 149 certain Italians, perhaps merchants, were in Carthage (Polybius, 36, 7; Appian, *Pun.*, 92) and probably dealing in grain (see the discussion of *cereals*). At the time of the Jugurthine War a great many Italian merchants were active in Africa. Sallust, *Bell. Jug.*, 21, 2; 26, 1; 47, 1. The business men resident in Utica apparently found that the war hurt their profits, and some wrote to Rome to support Marius' candidacy, believing that he might end the war sooner (65, 4; Vell. Pat., 2, 11).

Several pieces of evidence regarding commerce belong to the period of the Civil War. *Bell. Afr.*, 36, 2: Italian merchants were in the grain trade at Thysdrus. 68, 4: Caesar's men captured an *eques Romanus de conventu Uticensi*, "a Roman knight of the conventus of Utica." Caesar punished the three *conventus* of Utica, Thapsus, and Hadrumetum after his victory in Africa. 90, 1: *cives autem Romanos negotiatores et eos, qui inter CCC pecunias contulerant Varo et Scipioni, multis verbis accusat* (cf. 88, 1), "(Caesar) reproached the Roman citizens who were in trade (at Utica?) and those members of the three hundred who had given money to Varus and Scipio." 90, 4-5: the three hundred were jointly fined 200,000,000 sesterces by Caesar, to be paid in six semi-annual payments. The three hundred apparently were the more important business men in Utica (Broughton, *Romanization*, pp. 39-40). According to Plutarch (59, 2) they were merchants and money-lenders, and Caesar says, *Bell. Civ.*, 2, 36, 1: *conventus is qui ex variis generibus constaret*, "the conventus was of the type which includes various occupations." The conventus of Thapsus was fined 3,000,000 sesterces and that of Hadrumetum 5,000,000, while the two towns were fined only 2,000,000 and 3,000,000 respectively (*Bell. Afr.*, 97, 2). The size of the fines betrays the financial strength of the three groups of Romans.

During the proconsulate of Cornificius in Africa in 44 and 43 Cicero wrote several times to recommend people to him, usually speaking of *negotia* and *rationes* (*Ad Fam.*, 12, 21; 24, 3; 26; 27; 29). Cicero also mentions a L. Herennius who had a bank at Lepcis or Leptiminus (*Verr.*, 2, 1, 5, 14; 2, 5, 59, 155). Herennius must have had frequent business of some sort in Syracuse, for a hundred or more members of the Syracusan conventus knew him and tried to allay Verres' anger against him. In 56 B. C. Cicero wrote to the proconsul Valerius Orca, commending to him all the friends of a certain Cuspius who had been in Africa twice "when he was in charge of very important affairs of a company of publicans," cum maximis societatis negotiis praeesset (*Ad Fam.*, 13, 6). Propertius says that Cynthia's lover is off to Africa *quaestus causa* (3, 20, 1-4).

There is no evidence that the Phoenician cities of Africa prospered greatly on the sea-trade lost by Carthage, but it may be assumed that a share of it fell to them, and that they profited also by the elimination of Carthage from the arena of trade in Africa. Sextus Pompey had many seafaring men from Africa in his fleet in 42 B. C. (Appian, *Bell. Civ.*, 4, 85). Apparently some Italian lamps were imported during the first century before Christ (L. B. C. Carton, "Les fabriques de lampes dans l'ancienne Afrique," in *Bull. Soc. Oran*, XXXVI [1916], 64). Various Italian wines were imported in the first century before Christ (*C. I. L.*, VIII, 22640, 8, 21, 22, 26, 30, 31, 60; cf. P. Remark, *De amphorarum inscriptionibus Latinis*, pp. 14, n. 3 and 22). These amphorae are all of the first century B. C. Since all were found together, their belonging to that century is less conclusive evidence that the importation was limited to that century than if they had been found in more widely scattered places.

Evidence for labor conditions also is lacking. The free natives and the colonists doubtless were partly independent farmers and partly tenants at the end of the Republic, and we may assume that some slaves were used on the large estates (Broughton, *Romanization*, p. 29), but we know nothing of the workers in industry and commerce.

We have no evidence on prices or interest rates during the Republic. After the fall of Carthage Roman money became the official money, but many cities were allowed to issue bronze coinage (Müller, *Numismatique*, II-IV *passim*; R. Cagnat, "Remarques sur les monnaies usitées dans l'Afrique romaine à l'époque du Haut-Empire," in *Klio*, IX [1909], 194-205).

## IV. PROPERTY

It is tempting to suppose that Africa was a land of large estates from early Republican days. The evidence, however, is not conclusive. It may best be considered chronologically.

We have seen that at the formation of the province of Africa in 146 B. C. a considerable part of the land was granted to small holders. The territories of the seven cities, of the 2,200 Carthaginian deserters, and of the stipendiary natives cannot be called large estates. The holdings of the heirs of Massinissa within the province were perhaps fairly large. Some land was sold in the early days of the province, but no details are known.

If Gracchus could plan to settle 6,000 colonists on plots of 200 iugera each, there must have been some 1,200,000 iugera available. Presumably some of this land had been unoccupied since 146 and some had been left vacant by the death of the holders in the plague of 124. We do not know how many colonists were settled there or how many stayed after the charter of the colony was cancelled. It may well be, since there is evidence that the colonists were not of the urban rabble, that a fairly large proportion of them became and remained farmers in Africa. We may not assume that many of them soon abandoned or sold their allotments. Although this is known to have happened in other cases and may have happened to some extent here, there is evidence that some Augustan foundations remained groups of small holdings for generations. Further, Appian states that Augustus enrolled in his colony of Carthage men whom he "collected from the neighboring country" (*Pun.*, 136). These men may have been in part descendants of the Gracchan colonists who were carrying on *viritim* without a colonial charter (Barthel, *Geschichte der römischen Städten in Africa*, p. 17).

In 111 B. C., however, there was enough land available for sale to warrant the framing of detailed rules for the sale. On the one hand there was an excellent opportunity for the investment of idle capital, and some provisions of the *Lex Agraria* (see *supra*) suggest that the framers of the law expected large blocks of land to be bought. On the other hand it was a good opportunity for small farmers to make a new start, since cereal farming requires little capital. The best guess is that a fair number of large estates were created at this time.

The proscriptions of Sulla must have disturbed tenures in Africa, for there were many Marians there. Probably many members of the Marian army which opposed Pompey came from the settlement of Marian veterans discussed earlier in this chapter. Some of the large estates there, which later were imperial estates, may well have been created after Pompey's victory by the purchase of proscribed lands. Probably there had been some concentration of holdings even before that time, since many of the veterans were of the urban proletariat and little inclined to farming. Perhaps proscriptions and subsequent purchases led to concentrations of holdings in other parts of the province at this time. In 75 B. C. the title of the heirs of Massinissa to their holdings, given in 146 B. C., had to be reaffirmed, apparently against pressure from would-be buyers (Cicero, *De Lege Agraria*, 2, 58). This suggests that the public land was exhausted, and indeed in 62 Rullus could find in all Africa only the former site of Carthage to be sold under his plan (*De Lege Agr.*, 1, 5; 2, 51).

Presumably King Juba of Numidia was stripped in 46 B. C. of the lands conceded to his ancestors after the fall of Carthage, and these, as well as the royal properties, were declared public land of the Roman people by Caesar. Pompeians in the province were proscribed at this time (*Bell. Afr.*, 97, 1), and their estates presumably came eventually into the hands of members of the Caesarian party.

The inscriptions of the Empire do not mention public land in the original province. Apparently it all became private land in one way or another before the end of the Republic.

The names of four large landowners are known. In 56 B. C. M. Caelius Rufus had large estates in Africa which he had inherited from his father (Cicero, *Pro Caelio*, 30, 72). In 43 B. C. a certain L. Julius Calidus ran a risk of proscription because of his great African estates (Nepos, *Atticus*, 12, 4). Cicero's friend Aelius Lamia in 43 B. C. had *negotia, procuratores, libertos, familiam* in Africa (*Ad Fam.*, 12, 29). C. Anicius had been given a *legatio libera* to see to his "affairs" in Africa (*Ad Fam.*, 12, 21); it is more likely that the affairs were concerned with land than with trade. Most of the owners of large estates doubtless resided in Rome. There is no evidence on property conditions among the natives.



## V. POPULATION

The evidence for questions of population is also scanty. Many Carthaginians and natives were killed in the Third Punic War, and most of the survivors were sold into slavery. Apparently a number of Carthaginians escaped to Numidia and were allowed to settle there. No doubt they exerted a civilizing influence upon the Numidians of the region (Broughton, *Romanization*, p. 17, with further references). Punic continued to be spoken in the eastern part of North Africa for some centuries (see the next chapter under "population"), and this was doubtless due to the presence of people of Punic ancestry as well as to the former influence of Carthage upon the native population.

Whether or not the plague of 124 B. C. mentioned by Orosius (5, 11) carried off a considerable proportion of the inhabitants of the province cannot be known. Neither can it be known how many of the colonists of Colonia Junonia remained in Africa after the cancellation of the charter of the colony. Appian remarks that Augustus added some people from the vicinity to the 3,000 colonists whom he sent to Carthage in 29 B. C. (*Pun.*, 136), and it has been conjectured that they were descendants of the Gracchan colonists (W. Barthel, *Zur Geschichte der römischen Stüdten in Africa*, p. 17). Possibly it was Caesar who brought the people from the vicinity into the colony, since Appian has confused his colonization with that of Augustus. The increased interest in Africa on the part of Roman investors which is testified to by the *Lex Agraria* of 111 B. C. and the sale under that law doubtless brought some Romans and with them freedmen and perhaps imported slaves. The colonization of Marius after the Jugurthine War probably brought several thousand veterans to Africa, as has been said. In consequence Africa was strongly Marian at the time of the conflict between the Sullan and the Marian parties.

We have already seen that Italians, perhaps business men, were in Africa even before the fall of Carthage, that their number was fairly large at the time of the Jugurthine War, and that they continued to flourish thereafter. Of course we have no proof that many of them regarded Africa as their permanent home, nor is it likely. Varus could raise two legions in Africa for the Civil War (Caesar, *Bellum Civile*, 1, 31, 2), so that the number of Roman citizens in the province

must have been fairly large, even though he may have enrolled some non-citizens as an emergency measure.

Colonia Junonia and the Marian settlement of veterans have already been mentioned. Julius Caesar planned the recolonization of Carthage after his visit to Africa in 46, and apparently the colony was founded late in 44, after his death (S. Gsell, "Les premiers temps de la Carthage romaine," in *Revue historique*, CLVI [1927], 225-240; Broughton, *Romanization*, pp. 56-57, with references). Caesar probably wished the splendid commercial site to be used, the number of the idle populace of Rome to be reduced, and some veterans to be satisfied by allotments of land, and the new colony would serve all these purposes. It may well be that some of the land confiscated from the Pompeians in 46 (*Bell. Afr.*, 97, 1) was used.

Caesar also settled detachments of veterans at points of military importance (Broughton, *Romanization*, pp. 54-55). The combination of data from a number of inscriptions indicates that Curubis was one (*C. I. L.*, I<sup>2</sup>, 780; 788; VIII, 21400). Apparently detachments were also settled at Clupea (*C. I. L.*, X, 6104), at Carpis (*C. I. L.*, VIII, 25417; 24106), at Hippo Diarrhytus (*ibid.*, 25417), at Thysdrus (*C. I. L.*, VI, 3884, col. 5, l. 4; XII, 686; Pliny, *N. H.*, 7, 37), and probably Hadrumetum (*C. I. L.*, VIII, p. 2319; R. Cagnat in *Rev. épig.*, 1913, 4f.). Possibly Thuburnica and Thuburbo Maius were settled in this way (Broughton, *Romanization*, p. 55).

Cirta was perhaps given the title of colony after the death in 44 of Sittius, the soldier of fortune to whom Caesar had presented a kingdom in that region. Mela (1, 30) and Pliny (5, 22) speak of it as a "colony of Sittians," and it may be that the somewhat unusual organization devised by Sittius was regularized by grants of citizenship to some of the non-citizen inhabitants and the bestowal of titular colonial status. Rusicade, Chullu, and Milev, later associated with Cirta as colonies, probably were not colonies at first (Broughton, *Romanization*, pp. 71-76). Gsell argues that they were made colonies when Cirta was (*Hist. anc.*, VIII, 159-161). However that may be, the most important fact is that about 44 B. C. there was a stable settlement at Cirta, mostly of Africans, with some Spaniards and a few Italian exiles (Appian, *Bell. Civ.*, 4, 54; Cassius Dio, 43, 3, 1).

The end of the Republic apparently found Africa and Numidia

fairly prosperous. The Punic maritime cities probably profited from general shipping and from the grain trade. The reestablishment of Clupea (*Bell. Afr.*, 2, 6; 3, 1) and Neapolis suggests that there were possibilities of some prosperity for them, once reestablished. It is likely that they were ports for the shipment of grain. Carthage had recently been refounded. The Bagradas and Miliana valleys prospered because they were the chief wheat-producing regions; cereals were also grown in eastern Tunis as far south as Thysdrus. The incidental references to towns and villas in the *Bellum Africanum* show that the coastal region below Cap Bon was well-populated and well-cultivated. The heavy fine in oil imposed upon Lepcis by Caesar proves the prosperity of that town. The southern part of the original province, west and southwest of Hadrumetum, seems to have been left to the Gaetuli, who occasionally came as far as Hadrumetum in their raids (*Bell. Afr.*, 65, 1; 67, 2).

Civilization in Numidia seems likewise to have been confined to the north at this time (J. Toutain, "Les progrès de la vie urbaine," in *Mélanges Cagnat*, pp. 319-325). The best cereal regions were thoroughly civilized and there were a number of cities—Zama, Thugga, Lares, Sicca Veneria, Vaga, Thimida, Cirta, perhaps Bulla Regia. Zama, Lares, Sicca Veneria, and Cirta seem to have been the southernmost cities. Thala and Capsa, which lay far to the south and had been destroyed in the Jugurthine War, may well have risen again before the end of the Republic. The general extension of settled life through these southern regions was an important achievement of the imperial period.

## CHAPTER II

### FROM 43 B. C. TO 235 A. D.

The period from the foundation of Caesar's colony at Carthage to the death of Alexander Severus has been chosen as the subject of this chapter because Roman Africa reached its apogee during that period. The boundaries were slowly extended until under Alexander Severus the effectively occupied area was at its greatest extent.<sup>3</sup> By the end of the period the economic capabilities of every part of the country had been explored and the economy, as well as the population, of the country had settled down into what we may call its classical condition. The description of this period is naturally more interesting than that of the Republic and of the Decline, and fortunately evidence for the life of the period is comparatively plentiful.

#### I. THE HISTORICAL BACKGROUND

The political history of these two hundred and fifty years is not spectacular. It consists chiefly of the slow and patient extension of the area in which peace and security were assured.

One of the first problems to the solution of which the imperial government under Augustus felt compelled to address itself was the disturbance caused by the yearly northward movement of the nomads of the South. The southern border, as has been said, was far to the north of the border eventually established under Alexander Severus. We learn from the brief reports of our sources that the nomads were compelled to limit their movements. The evidence is as follows: Cassius Dio (55, 28) records a rebellion of the Gaetulians against King Juba and the Romans. L. Sempronius Atratinus celebrated a triumph in 22 B. C. for his operations in Africa (*C. I. L.*, I<sup>2</sup>, p. 50), and in 20 B. C. Cornelius Balbus conducted extensive operations in Tripolitania, pene-

<sup>3</sup> On the adjustment of the *limes* of Numidia under Gordian III see J. Carcopino, "Les inscriptions de Doucen," in *Revue des études anciennes*, XXV (1923), 33-48, also the articles of Carcopino in *Revue archéologique*, XX (1924), 316-325, and *Syria*, VI (1925), 30 ff., and P. W. Townsend, "The Administration of Gordian III," in *Yale Classical Studies*, IV (1934), 111-13. See also L. Leschi, "Recherches aériennes sur le 'Limes' romain de Numidie," in *Comptes rendus Acad.*, 1937, pp. 256-262.

trating far into the interior (Pliny, *N. H.*, 5, 36-8). Passienus Rufus triumphed at the beginning of our era (Vell. Pat., 2, 116; *C. I. L.*, VIII, 16456) and with the notice of the triumph of Cossus in 6 A. D. we get an explanation: tunc etiam in Africa Musolanos (*sic*) et Gaetulos latius vagantes Cossus dux Caesaris artatis finibus cohercuit atque a Romanis limitibus abstinere metu compulit (Orosius, 6, 21, 18). "Then also in Africa Caesar's general Cossus restrained the Musulamii and Gaetuli, who were wandering rather widely, by narrowing their boundaries and by frightening them away from the Roman border."

At the end of the reign of Augustus a road was built from Tacapae to the winter quarters of the *Legio III Augusta*, probably at Ammaedara (De Pachtère, in *Comptes rendus de l'Académie* [1916], 273-284). The milestones erected when the road was completed (e. g., *C. I. L.*, VIII, 10018) bear the name of the emperor Tiberius and give him the title of Augustus, which he refused, so that the road was evidently completed very soon after his accession. The purpose of the road was obviously military, the tribes below Tacapae still being unregenerate.

The famous revolt of Tacfarinas broke out in 17 A. D., and was caused by the steady pressure of the Romans on the tribesmen ("Tacfarinas" and "Musulamii" in *R.-E.*).

Tacitus, *Annales*, 2, 52: Eodem anno coeptum in Africa bellum, duce hostium Tacfarinate. Is natione Numida, in castris Romanis auxiliaria stipendia meritis, mox desertor, vagos primum et latrociniiis suotos ad praedam et raptus congregare, dein more militiae per vexilla et turmas componere, postremo non inconditae turbae, sed Musulamiorum dux haberi. Valida ea gens et solitudinibus Africae propinqua, nullo etiam tum urbium cultu, cepit arma Maurosque accolae in bellum traxit . . . compulerantque Cinithios, haud spernendam nationem, in eadem.

"In the same year the war in Africa began; the enemy's general was Tacfarinas. He was a Numidian by birth who had served with the Romans among the auxiliary troops, then deserted, and first gathered wanderers used to brigandage for plundering raids, then in military fashion organized them into squadrons and troops, and finally was considered the leader, not of an unorganized mob, but of the Musulamii. That powerful nation, living near the desert places of Africa, with no

cities even then, took up arms and drew its neighbors, the Mauri, into the conflict. . . . They compelled the Cinithii, no insignificant nation, to the same course."

The Cinithii, according to Ptolemy (4, 3, 6) lived near the Lesser Syrtis. The Musulamii lived north of the Aurès Mountains. The Gaetuli also revolted. The revolt, accordingly, stretched all across the southern part of the Roman possessions.

The motive of the natives is clearly shown by the demand which their leader sent to Tiberius in 22, after five years of guerrilla warfare.

Tacitus, *Ann.*, 3, 73: Nam Tacfarinas, quamquam saepius depulsus, reparatis per intima Africae auxiliis huc adrogantiae venerat, ut legatos ad Tiberium mitteret sedemque ultro sibi atque exercitui suo postularet, aut bellum inexplicabile minitaretur.

"For Tacfarinas, although often defeated, replenishing his forces in the recesses of Africa, reached such a pitch of arrogance as to send envoys to Tiberius and demand the gift of land for himself and his army, threatening otherwise an endless war."

They were willing to be subject to the Romans if only they might have a reasonable amount of land for their nomadic life, instead of being confined to the barer lands of the South. The demand was indignantly refused, and in 24 the war was ended by the defeat of the rebels and the death of Tacfarinas.

The inscriptions published as *C. I. L.*, VIII, 22786 indicate that a cadaster (or at least the bare outlines of one) of the region south of the province was made in 29-30 A. D. The combination of *C. I. L.*, VIII, 22786 with 22787-8 makes it seem likely that this land was set apart for the Nybgenii, a native tribe, and that under Trajan a resurvey was made where their land marched with that of Tacapae.

The tribe of the Cinithii, who lived near the lesser Syrtis, were allowed to stay there. In the second and third centuries members of the tribe were prominent at Gigthis (see detailed discussion in Broughton, *Romanization*, p. 123). The small tribe of the Musunii Regiani were allowed to remain around Thelepte (*I. L. A.*, 102-3). Apparently the Musulamii, who ranged from Madauros to Theveste, were forced to give up a large section around Ammaedara. (1) The town itself had some territory. (2) The Saltus Massipianus, an imperial estate, is near the town. The earliest notice of it is *C. I. L.*, VIII,

587, an inscription from the reign of Marcus Aurelius. (3) East of that is the Saltus Beguensis, a senatorial estate, known from an inscription of 138 A. D. (*C. I. L.*, VIII, 11451, 23246). (4) Near Kalaat es Senam, northwest of Ammaedara, was found a stone dating from 105 A. D. and marking the boundary between the estate of Valeria Atticilla and the Musulamii (*Comptes rendus Acad.*, 1923, pp. 71-3). The evidence does not permit a conjecture as to when these estates were acquired. The Saltus Massipianus may have become an imperial estate either then or later.

Possibly some of these tribesmen were among those who were lured away from Tacfarinas by the offers (probably of land) which Tiberius empowered his general Blaesus to make to the rebels (Tacitus, *Ann.*, 3, 73).

Of course life in these new regions did not immediately become similar to life in the long-settled regions of the North. They were less blessed with rainfall and therefore less able to maintain a large sedentary population. They were never to have as many towns and cities as the North, yet the remains of many tiny settlements and of a few towns and cities prove that they were far from desert. It is plain from Tacitus' account of the war with Tacfarinas that the region of civilization did not at that time extend very far south. In *Ann.*, 2, 52 the Musulamii are called *valida . . . gens et solitudinibus Africae propinqua, nullo etiam tum urbium cultu*; "a strong tribe, living near the desert places of Africa, with no cities even then." In *Ann.*, 3, 21 Thala is referred to as a *praesidium*; probably it was near or on the border, and it is remarked that at one time Tacfarinas *deflexit ad maritimos locos*, then was driven back *in deserta*. The "maritime regions" probably lay along the east coast of Tunis and toward Lep-  
timinus, for Tacitus (*Ann.*, 3, 74) mentions the pillaging of Leptiminus (see De Pachtère, *op. cit.*, 275). The other end of the battle line was far to the west for the same passage of Tacitus mentions the defense of the *pagi* of Cirta against the rebels, and the decisive battle of the war took place at Auzia in Mauretania (Tac., *Ann.*, 4, 25). A line drawn from Thaenae and passing below Cirta probably would serve as an approximation of the southern limit of effective occupation at that time.

Most of the centers of population in the South originated as military posts established during this war and later. Blaesus, the Roman

general, originated the practice of having the soldiers spend the winter in small forts on the edge of the danger zone (Tacitus, *Ann.*, 3, 74). The forts were naturally established at places where water was available and as naturally grew into towns, for the supervision of the nomads could not be abandoned immediately, as is shown by the fact that in 45 A. D. they attacked the proconsular province and had to be repressed by force (Suetonius, *Galba*, 7; cf. *C. I. L.*, VIII, 14603). Such was probably the origin of Sufes, Cilma, Sufetula, Cillium, Thelepte, Gemellae, and Thiges (Broughton, *Romanization*, p. 95). The development of these settlements and of the whole region must have been slow, for cereal culture could be practiced only in a few valleys and small irrigable areas, and olive culture, which was to be the source of later prosperity, could not develop on a large scale until the country was peaceful enough to attract capital and until time enough had passed for the necessary experimentation and for the development of olive plantations.

In 37 A. D. the emperor Gaius (Caligula) removed the legion of Africa, the *III Augusta*, from the control of the proconsul and placed a personally appointed legate at its head (Tacitus, *Hist.*, 4, 48; Cassius Dio, 59, 20). Although the two authorities give the emperor's fear of the proconsul Silanus as reason, it is obvious that Africa at the time consisted of a civil zone and a military zone. Caligula also deposed King Ptolemy and annexed Mauretania in 40 A. D. (Cassius Dio, 59, 25; Suet., *Caligula*, 26).

At the end of the reign of Gaius and the beginning of that of Claudius there was a serious revolt in Mauretania, lasting several years, and led by Aedemon, a freedman of the former king. After the suppression of this revolt colonies of veterans were sent to join the native cities of Tingi, Lixus (Pliny, *N. H.*, 5, 2), Caesarea (Iol), and Tipasa, and Oppidum Novum was founded (*ibid.*, 5, 20). The town of Volubilis was given Roman citizenship for its services on the side of the government (*I. L. A.*, 634). Possibly the grant of citizenship to Rusuccurru by Claudius which is mentioned by Pliny (*loc. cit.*) was for the same reason.

It must be assumed that during the reigns of Claudius and of Nero the inhabitants of the pacified regions of the South had been making progress in the development of the regions, for we find that in the time of Vespasian members of the Musulamii and Numidae were trusted to



become members of the army (*C. I. L.*, VIII, 4879; *An. Ep.*, 1896, no. 10), and that the camp of the legion was moved from Ammaedara to Theveste (*Comptes rendus Acad.*, 1916, 273 ff.). Probably the fact that these reigns and those of Vespasian, Titus, and Domitian were a time of peace in Africa is largely responsible for the scarcity of useful evidence. The southwestward movement continued under these emperors. Probably Vazaivi (*C. I. L.*, VIII, 17626), Mascula (*ibid.*, 2251; 17673), and Aquae Flavianae (*ibid.*, 17725) were established as frontier posts in the Flavian era. The settlement of a group of veterans in the native town of Madauros also dates from this era (*I. L. Alg.*, I, 2070). The region of Madauros was reasonably peaceful, although a raid occurred in 65 A. D. (*C. I. L.*, VIII, 14603), but it evidently was considered prudent to have certain centers of reliable veterans among the strongly native population. Nerva's settlements of veterans at Cuicul (*Comptes rendus Acad.*, 1916, 593 ff.) and at Sitifis (*C. I. L.*, VIII, 8473) were doubtless made for the same reason.

Vespasian ordered a resurvey of the boundary of 146 B. C., the course of which was described at the beginning of the first chapter. It is legitimate to conjecture that such a move on Vespasian's part was somehow connected with his program of rehabilitating the finances of the state. The boundary distinguished the land of the original province, which was subject to a *vectigal*, from that of the Marian settlers (see *supra*), which was not. Possibly some of the larger holders within the old province had avoided payment by claiming that their lands were in the Marian region. It may well be that farther south there was a distinction between the land inside the province and the land outside the province.

The expansion of the Roman territory in Africa ended with Trajan except for certain relatively unimportant additions made by the Severi (on the boundaries under these emperors see "Limes" in *R.-E.*).

The development of Southern Algeria in the second century seems to have followed three chief lines. First, a great many forts and settlements were established. A line of forts was drawn south of the Aurès Mountains ("Limes," in *R.-E.*). The veteran colony of Timgad was established in 100 A. D. near one of the chief passes on the north side of the mountains (*C. I. L.*, VIII, 2355; 17841). The camp of the *Legio III Augusta* may have been moved to Lambaesis, its permanent location, at the end of Trajan's reign (Cagnat, *L'armée*, 433 ff.). Such

places as Verecunda and Diana Veteranorum, for instance, were established as settlements of veterans (Broughton, *Romanization*, pp. 136-7). All these towns must have had more or less attraction for the natives, thus serving to stabilize the native population.

In the second place, certain regions were marked off as reservations for the native tribes. This was an obvious improvement on the old system of occasionally alienating sections of the ranges of the tribes and forcing them to wander farther afield. The tribal reservations will be discussed further under the discussion of *population*.

The third element was the formation of a goodly number of large estates, some of which were private, some imperial. These estates were areas of law and order, even if those natives who became tenants on them did not become significantly Romanized (see the discussion of *property*).

The pacified and civilized area did not extend as far to the west as might be expected. A line drawn from Tubunae, a little west of Lambaesis, and going northwest in the direction of Caesarea as far as Zucchabar roughly represents the boundary of the interior region effectively occupied. From Zucchabar westward there was effective occupation of a strip along the coast.

## II. NATURAL PRODUCTS

Cereals remained an important natural product of Africa during this period. In the poetry of the time Africa represents a rich grain country.<sup>4</sup> Tacitus adds his testimony in characteristically gloomy vein: *Ann.*, 12, 43, sed Africam potius et Aegyptum exercemus, navibusque et casibus vita populi Romani permissa est. "But we rather use Africa and Egypt, and the life of the Roman people is entrusted to the chances of the sea." Tacitus also testifies to the importance of Africa as a grain province at the time of the civil wars which ended with the accession of Vespasian: *Hist.*, 1, 73, Calvia Crispinilla . . . transgressa in Africam ad instigandum in arma Clodium Macrum, famem populo Romano haud obscure molita. "Calvia Crispinilla . . . crossed to Africa to stir up Clodius Macer to rebellion, and had openly tried to bring famine on the Roman people." *Ibid.*, 3, 48, namque et Africam, eodem latere sitam, terra marique invadere parabat, clausis annonae

<sup>4</sup> E. g., Horace, *Odes*, 1, 1, 10; Juvenal, *Sat.*, 8, 117-8.

subsidiis inopiam ac discordiam hosti facturus. "For he [Vespasian] was now preparing to invade Africa also by land and sea, situated as it is in the same quarter of the world, his purpose being to shut off Italy's supplies of grain and so cause need and discord among his foes." In 70 A. D. bad weather held the African grain ships in port, and it was thought at Rome that Piso, the proconsul of Africa, must have revolted: *ibid.*, 4, 38, sed quia naves saevitia hiemis prohibebantur, vulgus . . . clausum litus, retineri commeatus . . . credebat. "But because the ships were held in port by the severity of the winter, the common people believed the coast was blockaded and the transport of provisions stopped." Another dispute over Africa arose at the end of this period. Septimius Severus prevented Niger, his rival for the throne, from seizing Africa and cutting off the grain supply: *Vita Severi*, 8, ad Africam tamen legiones misit, ne per Lybiam atque Aegyptum Niger Africam occuparet ac populum Romanum penuria rei frumentariae perurgeret. "He sent legions to Africa lest Niger, going through Libya and Egypt, seize Africa and press the Roman people hard with a shortage of grain."

These notices are all general, but they prove that the production of grain during this period was large and was necessary for the provisioning of Rome. It is possible to state with some definiteness what parts of Africa were used for the production of grain during this period, after which the scanty data available on the total quantity produced may be discussed.

The northern part of the Cap Bon peninsula may well have been a cereal region in the Republic and in the Empire. It is fairly well suited to cereals (*Enquête sur les installations hydrauliques romaines en Tunisie*, I, 187) and there must have been some commercial basis for the rebuilding of Clupea during the Republic and some exportable product for the shippers of Missua to handle through their office at Ostia during the Empire. There are practically no remains of olive presses in this region.

As will be shown below, olives were a very flourishing crop in Byzacium during the Empire. It hardly seems possible that there was more than a slight production of wheat there at this period.

The towns of the Miliana Valley flourished at this time, and cereals probably continued to be the chief source of their prosperity. The remains of a fine villa and of olive presses on a nearby hill have been

found at Civitas Goritana, 9 km. northeast of Thuburbo Maius (*Bull. com.*, 1928-9, pp. 51-5). Probably olives were grown on the hills in most cereal regions.

Cereals remained an important crop in the valley of the Bagradas, from the plain nearer Carthage to the more broken regions in north-west Tunis, and in the valley of its tributary the Kralled. It is possible that other crops, notably olives, figs, and wine, became more important there in the late first and early second centuries of the Christian era than they had been before. This question will be discussed in detail below.

By the reign of Alexander Severus the pacified territory of Africa had reached its greatest extent, and a considerable amount of land was available for cereal culture which had not been available during the Republic. Of course cereals had been grown as part of the Roman economy outside the Roman territory during Republican times, but the farther west the farmer went the greater was his danger from unpacified natives, even after the whole of Roman Africa was theoretically pacified.

The first cereal region that occurs to the west of the original province is in northern Algeria. It begins about at Ghardimaou, which is just west of the border of Tunis and about 25 km. southwest of Chemtou (Simitthus) and extends a little west of Sitifis. Part of this region is in the valley of the Medjerda (Bagradas), part in the valley of the Seybouse. It is not a plain, although there are comparatively flat areas in it, as around Ghardimaou, Souk Arrhas (Thagaste), below Guelma (Calama), and below Cirta. The maps of the *Atlas archéologique de l'Algérie* show evidences of occupation and agriculture all through the region, and with the help of these maps we can draw rough limits to the cereal region on the assumption that where the zone covered with ruins stops, there the region of agriculture stops.

On its eastern side the region is a continuation of the better lands of Tunis—the Bagradas Valley and the central plateau. North of Thagaste is a wooded and broken region hardly suited to agriculture. The boundary of the region of ruins runs northwest to Duvivier, then west to Calama, then to Cirta, then to Milev, then to Sataf, north of Sitifis, and goes as far west as the plain of Medjana, some 60 km. west of Sitifis. Probably the southern limit of the cereal country was, roughly, a line from Sitifis to Madauros. Below that line the rainfall

is decidedly less, making the country unsuited to cereals, and the ruins are more scattered, which suggests olive country rather than cereal country. The imperial granaries of Hippo Regius (*An. Ep.*, 1924, no. 36) and of Cuicul (*An. Ep.*, 1925, no. 73) handled the grain of the region just discussed. A dedication to the *annona Augusti* was made at Cuicul (*An. Ep.*, 1924, no. 38). In the region of Thubursicum Numidarum there are deposits of phosphates which are eroded and distributed by the rains (Gsell, *Khamissa*, p. 28).

Farther west in Algeria there are a few smaller areas where cereals can be grown, such as le Sersou (a plateau south of Tiaret), the environs of Saïda, and especially the region of Sidi-bel-Abbès. We find few evidences of prosperity in these regions, and it may be that the farming was chiefly for subsistence.

The plateaus of the Atlantic coast of Morocco were probably used for cereals in Roman times (M. Besnier, "La géographie économique du Maroc dans l'antiquité," in *Archives marocaines*, VII [1906], 271-295).

There are of course many small areas where wheat can be grown, some of them fairly well-watered valleys in the drier parts of the country, some of them in the more broken parts. The regions mentioned, however, are the more important ones, and probably were the source of all the cereals that were exported.

It must be remembered that the country has no enormous plains like those in America where wheat fields sometimes extend for miles. It is essentially hilly, and the best exploitation of it requires a certain amount of arboriculture. The products mentioned in *C. I. L.*, VIII, 25902, the inscription of Henchir Mettich, are wheat, barley, beans, wine, oil, figs, honey, and sheep. Presumably this list of products is typical of those sections where the rainfall was sufficient for cereals.

The discussion of the amount of cereals produced in Africa invariably starts from a passage of Josephus (*Bell. Jud.*, 2, 383).<sup>5</sup> Agrippa in a speech in which he tried to dissuade the Jews from their great revolt under Nero by reminding them of Rome's power and resources said that Africa supplied grain for the multitude of Rome for eight months in the year. *χωρὶς δὲ τῶν ἐτησίων καρπῶν, οἱ μῆσιν ὀκτὼ τὸ κατὰ τὴν Ρώμην πλῆθος τρέφουσι, καὶ ἔξωθεν παντοίως φορολογοῦνται, καὶ ταῖς χρεῖαις τῆς ἡγεμονίας*

<sup>5</sup> See Rostovtzeff, "Frumentum," in *R.-E.*, VII, 132-3; G. Cardinali, "Frumentatio," in *Dizionario Epigrafico*, III, 304-9.

παρέχουσιν ἐτοίμους τὰς εἰσφοράς. "And besides the annual fruits of the earth, which maintain the multitude of the Romans for eight months in the year, this Africa over and above pays all sorts of tribute, and affords revenues suitable to the necessities of government." Although the preceding sentence in Agrippa's speech might seem to include Egypt in Africa, yet the two following sentences treat Egypt separately and state that it furnishes grain for four months of the year. We may therefore assume that Africa as defined in the present monograph was the source of the eight months' grain supply. It will also be assumed that the needs of the whole city are meant, not the grain distributed free, because a calculation based on the latter assumption gives an improbably low figure, and because the expression used about Egypt is "food for Rome for four months" (παρέχει . . . τῇ Ρώμῃ σίτον μηνῶν τεσσάρων).

With this statement of Josephus may be combined the statement of Aurelius Victor (1) that Egypt in the time of Augustus sent 20,000,000 modii of grain to Rome. Since this statement and that of Josephus may both rest upon Augustus' *breviarium totius imperii* (Tacitus, *Ann.*, 1, 11; Suetonius, *Augustus*, 101) it is usual to join them in spite of the fact that Josephus is talking about a later reign and to conclude that under Augustus, probably at the end of his reign, Egypt furnished 20,000,000 modii and Africa 40,000,000.

The proportion of exports to total production can only be estimated. Some of the grain had to be used for seed, probably a tenth to an eighth on the average. Some, and this the greater part, was consumed in Africa. The French government estimates that the natives of Algeria, who live almost entirely on cereals, consume about 800 lbs. apiece in a year (Rivière et Lecq, *Traité pratique*, p. 222, n. 1). This is about the amount used by the Roman legionary. Their consumption, plus that of animals and the part used for seed, requires nine-tenths or more of the annual production. More than a tenth must have been exported in Roman times, however. In the first place, the Roman market was a large and sound one. According to Cicero (*Verr.*, 3, 70, 163) about 23 per cent of the Sicilian wheat crop was expected to go to Rome in the governorship of Verres (cf. W. J. Oates, "The Population of Rome," in *Classical Philology*, XXIX [1934], 112), and, as is attested by Cicero, *De Domo*, 5, 11, and *Fam.*, 13, 79, there was other export trade. The renters on the African imperial estates at the end of the century had to pay a third of their grain as rent. Against this we must set the small farmer who might hope to have a surplus to sell, but whose own needs would leave him only a small surplus, and the subsistence farmer who was off the beaten track and did not export at all. Doubtless some of the natives who had been given allotments subject to a tithe in the old province after the fall of Carthage were paying that tithe in grain and perhaps exporting a little in addition. If, as a hypothesis, we set a fourth as the proportion that was exported, the total production would be 160,000,000 modii.

That amount could have been produced on the land then available. A modius equals 1.1 pecks, U. S., or 16.5 lbs. of wheat. This is .07484 quintal (1 quintal equals 100,000 g. or 220.46 lbs.). 160,000,000 modii, then, is 12,074,400 quintals. In 1912, Tunisia and Algeria produced about 17,100,000 quintals of wheat and barley. The territory used by the Romans for cereals at the time of Augustus was probably smaller than that so used in the last few decades. The regions of Sidi-bel-Abbès, of Tiaret, and of Tagremaret do not show evidences of intensive cultivation in antiquity, and the environs of Sitifis probably were not well settled and pacified at this time (see *supra*).

The average productivity of the cereal lands in Roman Africa in the first century A. D. was probably not very different from that of recent years. Then, as now, some land was worked by ignorant natives who used primitive equipment and methods, whereas some was worked by large operators who understood the problems involved, had good equipment, and had the capital to make profitable improvements. In the year 1912, the production of which was used for comparison, the nature of the soil and climate was well understood but it was too early for the intensive motor cultivation of nowadays.

Since we can make a probable guess at the unknown factors, then, and since a plausible result is reached thereby, the total production at the end of the principate of Augustus may, at a venture, be estimated at 160,000,000 modii, or 12,074,400 quintals.

There is evidence that Africa was occasionally afflicted with famine: *I. L. Alg.*, I, 2145, at Madauros; *C. I. L.*, VIII, 1648, at Sicca Veneria; 9250, at Rusguniae; 15456, at Uchi Mains; 15497, at Henchir Udeka, 225 A. D.; 25703-4, at Thuburnica; 26121, at Numluli, 170 A. D. Since most of these shortages occurred in regions where cereals were a regular crop, they probably should be ascribed to unusual lack of rain. Hadrian's arrival in Africa is said to have been made more memorable by the first rainfall in five years (*Vita Hadriani*, 22, 14). Rostovtzeff, *Soc. Econ. Hist.*, p. 529, n. 9 ascribes these famines to difficulties of transport.

As to the quality of African wheat, Pliny tells us that it was rated third among the foreign types (*N. H.*, 18, 63), and that it made the best *similago*, a second-grade flour (*ibid.*, 18, 89).

Another cereal is sorgho, or milium, which appears on an African mosaic (A. Piédallu, *Cinquième Cong. Int. d'Archéologie* [1930], 243-246). Pliny mentions zea, a sort of spelt (*N. H.*, 18, 115) and farrago, a fodder produced by sowing barley and vetch (*ibid.*, 18, 142).

A great deal of the African wheat was used for the annona. The word *annona*, when used in this sense, means the ensemble of supplies gathered by the state for free food at Rome, or that sold at a reduction, or that furnished to the army, or given as partial pay to certain officials ("Annona" in *R.-E.*, *Dict. Ant.*, *Diz. Ep.*, and especially R. Cagnat, "L'annone d'Afrique," in *Mémoires de l'Institut*, XL [1916], 247-277). Wheat was the chief element; oil had been added by the time of Commodus (*C. I. L.*, II, 1180), and Aurelian added pork (*Vita Aureliani*, 35), as well as reducing the price of wine (*ibid.*, 48). The chief annona provinces were Egypt, Africa, Sicily, and Spain (see the mosaic of Ostia in *Bulletino della commissione archeologica comunale di Roma*, XL [1912], 103-112).

The grain which was to be used for this purpose came from several sources. The tenants on the imperial estates paid their rent in kind—a third of the wheat or barley, a fifth of the beans, a third of the wine or oil (*C. I. L.*, VIII, 25902, I, 25-29). Presumably the tenants of the public land paid their rent in kind—at least Caesar boasted that the new province of Numidia would yield a certain amount of wheat for the treasury, as well as the fine of oil imposed upon Lepcis (Plutarch, *Caesar*, 55). Those who held land subject to tithes (*decumae*) might pay in money or in kind; presumably most payments were in kind. Tacitus, *Ann.*, 4, 6 (under Tiberius), at *frumenta et pecuniae vectigales . . . societatibus equitum Romanorum agitabantur*, “the taxes of grain and money were collected by companies of Roman knights.” During the reign of Tiberius the tax began to be collected directly by the government (O. Hirschfeld, *Die Kaiserlichen Verwaltungsbeamten*, pp. 68-70). If what was collected from these sources did not suffice, the state probably purchased more (“*Frumentatio*,” in *Diz. Ep.*, III, 293-4).

Oil was a far more important product of Africa during this period and later than during the Republic (“*Ölbaum*” and “*Oleum*,” in *R.-E.*). Pliny (died 79 A. D.) asserts that “Nature gave it [Africa] over entirely to cereals, merely not depriving it altogether of oil and wine”; *cereri totum id natura concessit, oleum ac vinum non invidit tantum* (*N. H.*, 15, 8). The statement probably was true when it was made, for, as the following evidence will show, olives were grown chiefly in regions which in Pliny’s time were not yet ready for settled life and the risk of the investment which is necessary for olive-growing.

A reasonably complete list of the olive-producing regions can be compiled from epigraphic and archaeological sources. Many oil presses remained to be discovered by the French archaeologists. They do not always indicate the exact spot at which olives were grown, for they are sometimes found in batteries in towns, but they give exact enough indication for the purposes of this survey. Naturally they carry no indication of when they were installed, so that we must use other methods to discover when olive culture began in any region. The presses which have survived are made of stone; the possibility of wooden presses in well-wooded regions must be allowed for, as well as the possibility that some olives were shipped unpressed, either for consumption whole or to be pressed elsewhere.



Lepcis produced a great deal of oil in the late Republic, as has been said. A goodly production must have continued there until the late Empire, for when Septimius Severus gave the city the *ius Italicum*, under which a tribute need not be paid, the city offered him regular shipments of oil (Aurelius Victor, 41) which apparently were sent until Constantine gave relief (*ibid.*). Victor uses the word "Tripolis"; Sabratha and Oea also may well have produced oil. Possibly Lepcis controlled the inland region of Djebel Tarhuna, where many presses have been found (M. H. Méhier de Mathuisieulx, "Rapport sur une mission scientifique en Tripolitaine," in *Nouvelles archives des missions*, X [1902], 270). It is difficult to see how Lepcis could have paid the heavy fine in oil imposed by Julius Caesar from its immediate territory (Gsell, "L'huile de Leptis," in *Rivista della Tripolitania*, I [1924-25], 41-46). Gighthis apparently was a shipping point for oil, for investigators there found the remains of docks with many large jars apparently awaiting shipment (L. A. Constans, *Gighthis*, p. 69).

The evidence for olive culture in what is now Tunis is practically all archaeological and is reported in the *Enquête sur les installations hydrauliques romaines en Tunisie* and in the *Atlas archéologique de la Tunisie*. The east coast from about Thae-nae to Cap Bon seems to have been nearly one large olive grove. Apparently cereal culture in Byzacium, to whatever extent it was practiced during the Republic, had largely given way to olive culture. Evidences of intensive olive culture are found in the following places in this region: (1) a region extending 50 km. inland from Thysdrus (El-Djem) south to Thae-nae, *Enquête hydraulique*, I, 221-2 (2) Rougga, 13 km. southeast of El-Djem, *ibid.*, I, 14-18 (3) Rabah de Chebba, a forest of brush covering about 160 sq. km. and extending from 20 km. east of El-Djem to the sea, *ibid.*, I, 18-22 (4) from El-Djem northward to Vicus Augusti, *ibid.*, I, 51-3 (5) the southern half of Cap Bon, *ibid.*, I, 187 (6) the coast from Hadrumetum to Cap Bon, *ibid.*, I, 238-242.

A second important region, but one in which the olive groves were more scattered, was the inland region of Southern Tunis. Batteries of olive presses have been found at Sufetula (*Bull. com.*, Dec., 1934, ix) and in its vicinity (*Atl. arch. Tun.*, fe. 48). The slopes of Djebel Trozza, some 50 km. northeast of Sufetula, were terraced for olive trees (*Bull. com.*, 1928-9, pp. 66-7). HENCHIR-GRAÏBA, 70 km. west of Sfax, apparently was a region of olive culture (*Enquête*, I, 260).

Djilma, the ancient Cilma, was another (*Atl. arch. Tun.*, fe. 47). The plain east of Feriana (near ancient Thelepte) was doubtless used for olive culture, for the remains of dozens of presses have been found there (*Atl. arch. Tun.*, fe. 53). At Henchir Ferra, 34 km. south of Thala, the remains of many presses were found (*Enquête*, I, 161). The plain known as le Felta, some 25 km. northwest of Thala, is poorly watered, but has many evidences of olive culture on a large scale in ancient times (*ibid.*, I, 81).

The third oil-producing region of Tunis was the northern part, where the rainfall was generally heavier and which had been well settled in republican times. We find there a few areas where the olive groves may have been fairly large. The northern part of the plain of le Fahs, just below Bisica, has many evidences of olive culture (*ibid.*, I, 142). The plain about Furni, 14 km. south of Thuburbo Minus, also has many evidences of olive culture, although it is well suited to cereals (*ibid.*, I, 139-41). A few presses were found just south of Tebourba (Thuburbo Minus; *Atl. arch. Tun.*, fe. 19, nos. 11, 111, 117, 139, 143, 161, 214) where large olive groves are situated now.

There is much less material evidence of olive-culture in the more western regions of northern Tunis. The *Atlas* records oil presses around Thugga, but they are widely scattered (fe. 33, nos. 41, 43, 53, 68, 83, 112, 189, 199, 207, 216, 220). A number of presses are recorded on the Saltus Burunitanus (fe. 17, nos. 12, 14-17, 21, 84, 86, 98, 99, 113). The other presses recorded by the *Atlas* are widely scattered. It must be remembered that in this region more timber was available and that more presses must have been made of wood. They, of course, have not survived to our times.

In a few regions of Algeria (Numidia and Mauretania Caesariensis) there was a great deal of olive culture. The *Atlas archéologique de l'Algérie* gives a painstakingly detailed report.

In eastern Algeria, near Thagura and Madauros, there is a region of modest size in which a number of presses have been found (*Atlas*, fe. 19, nos. 1, 19, 70, 117, 172, 176, 186). Several presses have recently been discovered at no. 37, Civitas Pophensis (J. Guey, "Ksiba et à propos de Ksiba," in *Mél. d'arch. et d'hist.*, LIV [1937], 69). Madauros was an important center of the oil industry, for the earlier excavators discovered many presses in the city (*Atlas*, fe. 18, p. 33), and the discovery of 21 more is reported in *Bull. com.*, 1930-31, pp.

314-5. The olive region was mostly east of Madauros; west and northwest of the city the remains indicate cereal culture. South of this region, nearer Theveste, comparatively few presses have been found, but farther south still in the foothills of the Aurès Mountains, almost every ruin has one press and many ruins have several (*Atlas*, fes. 29, 39, 40, 51).

The largest olive region in Algeria lay between Sétif (Sitifis) and Batna, which is 10 km. northwest of Lambaesis. Some scattered presses have been found north of Sétif on land suited to cereals. South of Sétif the ruins of Roman establishments are more scattered, but the number having presses increases, and many more ruins have several presses than have only one. In the region bounded roughly by Zarái, Lambiridi, Batna, Gibba, and Diana, almost every ruin contains the remains of presses (*Atlas*, fes. 16, 26, 27, 37). In this region at the foot of the Aurès Mountains the *Atlas* reports many evidences of irrigation. The well-known irrigation inscription of Lamasba shows that olives as well as cereals were irrigated (*C. I. L.*, VIII, 18587).

In Mauretania Tingitana olives were much less important than wheat and wine (Besnier, "La géographie économique," in *Arch. marocaines*, VII [1906], 271-295).

The course of olive culture in Africa was what might have been expected under the physical conditions. Lepcis, where cereals are a poor crop and olives a good one, developed its oil industry early. During the Republic other parts of Africa produced little oil because cereals were a profitable crop in such regions as were settled. Probably there was a very modest production for home consumption. During the Empire, however, the boundaries were pushed far to the South and the drier regions which had been left to the nomads during the Republic became available for agriculture. No one would think of large-scale cereal production there.

The technique of growing olives in dry country, however, must have been fairly well developed, and enterprising agriculturists turned this apparently poor land into a prosperous country. In a rolling country it is possible to catch the rain on the knolls and lead it down through channels to the trees. The *Enquête* reports devices of this kind inland from Hadrumetum. In some places, as near El-Djem, the subsoil strata of stone are such as to hold the rainwater for the deep roots of the olive. Farther south, at Sfax (Taparura) the Romans must have used

the method which is now in use, careful destruction of weeds which might steal the moisture and constant working of the soil to check the capillarity which might lead the moisture to the surface there to evaporate. By such devices the Romans, and nowadays the French, could make use of land which a few generations ago was thought to be desert and useless.

The archaeological evidence given above that there were sizable olive groves in Byzacium, in the plains of Bisica (le Fahs), of Furni, and near Thuburbo Minus (Tebourba), and the constant mention of the planting of olives, figs, and vines in the famous inscriptions of the imperial estates farther west raise the question as to how far arboriculture and especially olive culture supplanted cereal culture.

As has just been said, large-scale cereal production is impossible in most of the southern regions brought under the Roman sway during the Empire. If those regions were really to be exploited, it must have been by arboriculture. Byzacium is more like the northern regions, for occasionally a good wheat crop can be produced there, although not often. It is not surprising that it became a region of great olive groves when the technique necessary for these regions had been well developed.

The regions of (1) Thuburbo Minus, Furni, and Bisica and (2) of the imperial estates of the upper Bagradas Valley offer a more difficult problem, however, for they lay in the classical region of cereal culture. It is possible that in the first group, and in the lower Bagradas Valley in general, the soil had been exhausted by continued cereal culture and by erosion, a fate which has befallen more than one fertile region in the short history of the United States. Manure and other fertilizers may be used to counteract the exhaustion of the soil, but add to the cost of production. Nitrogen-fixing crops may also be used, as the Romans knew. Beans and vetches are mentioned as products of an imperial estate in the inscription of Henchir Mettich (*C. I. L.*, VIII, 25902, I, 27-8; III, 12-17). Letting the land lie fallow was a practice known to ancient agronomists, but the experience of the modern African farmer is that even this merely retards the exhaustion of the soil (Rivière et Lecq, *Traité pratique*, pp. 243-4). It must be remarked, however, that the lands longest cultivated with the modern implements of the European settlers are the ones which show the most signs of exhaustion (*ibid.*). The land had presumably been in use since before the fall of Carthage. If it were no longer able to produce

good crops of wheat, it might still have been utilized for olives, which are widely spaced and have deep roots.

Certain other considerations must be kept in mind, however. In the first place, there is only the limited amount of archaeological evidence, in the form of remains of presses as given above, that there was olive culture in these regions. This is not conclusive evidence as to the amount of olive culture, for the wooden presses, of which there must have been many in northern Africa, of course failed to survive to modern times, and some of the olives may have been shipped unpressed. In the second place, the fact that the presses which have been found were rather closely grouped in three small areas, except for some widely scattered ones, suggests that there was some special condition in those areas of which there is no evidence available. At Thuburbo Minus, for instance, the veterans of the eighth legion (*Inscriptions latines d'Afrique*, 414) may have been accustomed to olive culture, as were the Andalusians who came to Africa in the 17th century. In the third place, there is no means of knowing exactly how each portion of the land was managed over a long period. The occupants presumably were aware of the danger of exhausting the soil and may have managed their precautions with considerable skill. It would be rash to conclude on the basis of probability and of such evidence as is available that the whole lower valley of the Bagradas declined strongly in cereal culture and advanced strongly in olive culture during the early Empire (cf. T. Frank, "The Inscriptions of the Imperial Domains of Africa," in *Am. Journ. Phil.*, XLVII [1926], 69).

In the other region, that of the imperial estates, the archaeological evidence for olive culture is likewise very modest in amount, but the frequent mention of olives (also of figs and vines) raises the question whether arboriculture may have supplanted cereal culture there to a considerable extent. The relevant passages of the inscriptions are discussed in the section on "property" as part of the commentary on the inscriptions. The conclusions are that there was an increase of arboriculture, especially of olives, on the rougher and hitherto neglected pieces of land, and that there is no conclusive evidence that land formerly used for cereals was given over to arboriculture (cf. Frank, *op. cit.*, 68; Rostovtzeff, *Soc. Econ. Hist.*, pp. 189-90, 322 seems to have confused this limited development on the rougher parts of the imperial estates, which was encouraged by the emperors for the sake of revenue, with

the natural development on great tracts in the South which were better suited to olive culture than to any other kind).

Our sources offer little information on the production of wine, although the parts of the country not too far from the sea are well suited to the vine. A factory recently discovered near Sfax may have produced wine (*Bull. com.*, juin, 1936, pp. xiii-xviii). Strabo says that the vine flourished in Mauretania (17, 3, 4). Since Pliny remarks (*N. H.*, 14, 120) that the sharpness of African wine is tempered with gypsum or lime, it may well be that the wine could not compete in foreign markets with the better wines of other countries. Smoke-dried grapes from Africa attained some popularity because of the emperor Tiberius' fondness for them (*ibid.*, 14, 16). African raisin wine was well thought of (*ibid.*, 14, 81). The grapes as they came from the vine were considered excellent and were an article of commerce (*ibid.*, 14, 15-16). On the imperial estates new vines might be planted only in place of old ones (*C. I. L.*, VIII, 25902, II, 24-30). This does not prove that Domitian's limitation of wine-production in the provinces was still in force; it may prove that Trajan did not wish to offend public opinion by encouraging such production or that it was thought best to employ all possible land for cereals, as is suggested by the apparent restriction of olive culture to land unsuited for cereals (see the commentary on the inscriptions of the imperial estates).

Figs were an important element of the diet of the poor in Africa (Pliny, *N. H.*, 15, 82): panis simul et obsonii vicem siccatae implent, "dried figs take the place of both bread and meat." A fine variety for export was also produced (*ibid.*, 15, 69). Petronius mentions African figs (*Sat.*, 35, 3), as does Varro (*R. R.*, 1, 41, 6). They apparently were a standard product on the imperial estates (*C. I. L.*, VIII, 25902, II, 13-24).<sup>6</sup>

<sup>6</sup> Other edible products were pomegranates (Pliny, *N. H.*, 13, 112; Martial, 1, 43, 5); pears (*I. L. Alg.*, I, 2250; Pliny, *N. H.*, 15, 55); jujubes (*ibid.*, 15, 47); dates (*ibid.*, 13, 26; 13, 111); onions (*ibid.*, 19, 95; Juvenal, 7, 120; Edict of Diocletian, 6, 41); garlic (Columella, *R. R.*, 11, 3, 20; Pliny, *N. H.*, 19, 112); asparagus (*ibid.*, 20, 110); artichokes (*ibid.*, 19, 152); peas (Columella, *R. R.*, 2, 10, 20; 9, 1, 8); cumin (Pliny, *N. H.*, 19, 161); honey (*ibid.*, 11, 33; *C. I. L.*, VIII, 212, vv. 88-90; *ibid.*, 25902, I, 29-30); salt from near Utica (*ibid.*, 14310; Pliny, *N. H.*, 31, 81) and from mines at Bu-Chemmasc, near Sabrata (*Rivista della Tripolitania*, II [1925-26], 6); guinea-fowl (Pliny, *N. H.*, 10, 74; cf. *ibid.*, 10, 132; 19, 52; Petronius, *Sat.*, 55, 6; 93, 2; Horace, *Epodes*, 2, 53; Martial, 3, 53, 15; 3, 77, 4; Varro, *R. R.*, 3, 9, 18; Columella, 8, 2, 2); snails (Pliny, *N. H.*, 9, 173); truffles (*ibid.*, 19, 34; Juvenal, 5, 119). Mackerel were caught off Mauretania and

Livestock probably was a very important part of the economy of Roman Africa, as it is of modern Africa. According to Rivière et Lecq it ranks second to cereals in importance among the agricultural products (*Traité pratique*, p. 639). Its importance does not always appear in reports and statistics because the product, be it flesh, wool, milk, transportation or draft labor, is so often consumed by the owner. Such must have been the case in Roman times. The direct evidence on livestock is relatively scanty, yet many of the people had been pastoral nomads before assuming a more settled life under the Romans and many remained nomads during the Roman occupation. General farms presuppose livestock, and even the great cereal farms doubtless had sheep and goats as well as draft animals, for there were hilly parts that could not be farmed and the animals were highly useful to the tenants.

Strabo praised African horses (17, 3, 19), and they are prominent in the racing inscriptions at Rome (*C. I. L.*, VI, 10047, 10053). *C. I. L.*, VIII, 4508 (202 A. D.) mentions horses, cows, mules, asses, pigs, sheep, goats, hides, sheepskins, goatskins, and *vestis Afra*, the latter presumably woolen cloth woven in Mauretania. *Ibid.*, 23956 reflects a quarrel in 186 A. D. between farmers and sheepmen near Thuburbo Minus. *C. I. L.*, VIII, 25902, III, 17-20 makes it plain that the tenants on the imperial estates kept sheep; cf. the mosaic of Julius from Carthage (*Bull. com.*, 1921, pp. 95 ff., reproduced in Rostovtzeff, *Soc. Econ. Hist.*, pl. LVIII). There are items in the Edict of Diocletian (see *infra*) which suggest a considerable production of fabrics. Pliny says that the people around the Syrtes wore clothes of goat's hair (*N. H.*, 8, 203), and Varro speaks of Gaetulians clad in goatskins (*R. R.*, 2, 11, 11).

Wild animals as well as domesticated were economically important, for they continued to be used in the games at Rome and other cities of Italy during the Empire. Presumably the fur of African animals was important as well ("Pelles" in *Dict. Ant.*).

The shipment of wood from Africa which is attested by decrees of Valentinian and Honorius may be assumed for this period as well

used for garum, or fish-sauce; the garum of Lepcis was highly esteemed (Pliny, *N. H.*, 31, 94); possibly this garum was made from the fish that Strabo says were caught in great numbers off the west coast near the Lesser Syrtes (17, 3, 16-17). Probably some of these fish were salted in the factory at Zuchis, on the Lesser Syrtes, which Strabo says did salting of all kinds (17, 3, 18).

(*Codex Theodosianus*, 13, 5, 10, *navicularios Africanos, qui idonea publicis dispositionibus ac necessitatibus ligna convectant, privilegiis concessis dudum rursus augemus*, "we again invest the African shippers who bring wood for public use and necessity with the privileges formerly conceded them"). Cf. Symmachus, *Ep.*, 10, 58. Forests are mentioned as a locale for workmen at Sala (*Mél. d'arch. et d'hist.*, XLVIII [1931], 27-8). Fine cedar wood came from Africa (Pliny, *N. H.*, 16, 197; Vitruvius, 2, 13). There were large forests in the more hilly regions, such as the Aurès Mountains, the Atlas Mountains of Mauretania and their spur in northern Numidia and Proconsularis, while southern Tunis and southern Algeria were comparatively bare of trees (Gsell, *Hist. anc.*, I, 139-40; "Numidia," in *R.-E.*, XVII, 2, 1389-90).

Some sixty mining sites have been discovered, but they apparently were exploited by the Arab successors of the Romans, for the procedure followed was too crude to be ascribed to the Romans (Gsell, "Vieilles exploitations minières dans l'Afrique du Nord," in *Hespéris*, VIII [1928], 1-22). Although Pliny discusses mines in detail, he does not mention any in Africa. Strabo mentions a copper mine in the country of the Masaesytes, presumably that of Tenès (17, 3, 11). St. Cyprian (early third century) in *Ep.* 77 addresses some fellow-Christians who had been *damnati in metallum*, "condemned to the mines"; the mines were probably at the place called Siguese on the Tabula Peutingeriana. Other such condemnations are mentioned by the younger Pliny (*Ep.*, 2, 11, 8), Tertullian (*Apologia*, 12), and Victor Vitensis (3, 68).

Many quarries were worked. The most important was that of Simitthus, which yielded the yellow marble with red veins known as *giallo antico*. It was first seen in Rome in 78 B. C. (Pliny, *N. H.*, 36, 49). The marble, which is a striking type and especially suited for decoration, was much used. In the age of Augustus, for instance, it was used in the Pantheon, the temple of Concord, and the Forum of Augustus (E. Platner, *Beschreibung der Stadt Rom*, I, 344-5). It was used for decoration in the basilica of Thubursicum Numidarum (S. Gsell, *Khamissa*, p. 70) and doubtless in many other places in Africa. Pieces have been found at Carthage and Thacia (*Musées de l'Algérie*, VII, 35, no. 2; 36, no. 12). Further instances of its use are given in "Marmor," in *Dict. Ant.*, VI, 1604 and in "Steinbruch," in *R.-E.*, Zw. R., VI, 2268-9.



*C. I. L.*, VIII, 14580-1-2 (150 A. D.) mention the *officina Agrippae* at Simitthus, which presumably was a quarry opened by Agrippa; 14578-9, 14583 (149-151 A. D.) mention the *officina regia*, which probably was a quarry which had been worked since the time of the Numidian kings. 14551, 14571-7 name an imperial procurator of the middle of the second century; since the quarries seem to have been a royal property of the Numidian kings, they probably were public property of the Romans from the beginning and finally were managed by a procurator.

A number of other Roman quarries are known. The quarry from which Sufetula was built has been discovered (*Bull. com.*, 1930-31, p. 377). Quarries at the following places are reported in the *Atlas archéologique de la Tunisie*: Missua (fe. 8, 8); 5 km. east of Chiniava (fe. 12, 235-6); Thub . . . (fe. 17, 122); 8 km. east-northeast of Giufi (fe. 28, 136); Thapsus (fe. 66, 75); Thelepte (fe. 53, 14); 25 km. southeast of Thelepte (fe. 53, 125); 15 km. east of Thimisua (fe. 25, 103). Quarries at the following places are reported in the *Atlas archéologique de l'Algérie*: 15 km. west of Tipasa on the coast (fe. 4, 27); 10 km. east of Tipasa on the coast (fe. 4, 46); 8 km. southeast of Tipasa (fe. 4, 52-3); 5 km. east of Rusguniae on the coast (fe. 5, 37); between Saldæ and Choba on the coast near the probable site of Musluvium (fe. 7, 56); 7 km. south of Rusicade (fe. 8, 200); 20 km. east of Rusicade, near the coast (fe. 9, 3); 10 km. north of Hippo Regius on the coast (fe. 9, 9); Calama (fe. 9, 150 bis); 5 km. south of Milev (fe. 17, 60); 5 km. southwest of Saddar (fe. 17, 275); 15 km. northwest of Portus Magnus (fe. 21, 4); 10 km. southeast of Tubunæ (fe. 37, 27). Near Carthage and down the east coast of Tunis there were strata of tufa of which use was made in many places (C. Tissot, *Géographie comparée de la province romaine d'Afrique*, I, 263-4).

Mica (*specularis lapis*) was another material found in Africa (Pliny, *N. H.*, 36, 160) used for windows. An asphalt deposit near Carthage is mentioned by Vitruvius (8, 3, 8) and one in Algeria by Strabo (17, 3, 11). Resin, pitch, and alum were dutiable according to the tariff of Zarái (*C. I. L.*, VIII, 4508). Probably they were produced on the Mauretanian side of the customs frontier.

African slave boys are mentioned by Suetonius (*Augustus*, 83) and Juvenal (5, 52-3, 59). Caligula showed African boxers in a spectacle (Suetonius, *Caligula*, 18).

Most of the other products known to us were luxury products. The purple dye industry continued in this period. Strabo mentions a factory at Zuchis, on the Lesser Syrtes (17, 3, 18) which probably used the shellfish of Meninx (modern Djerba) and of the Syrtes, which are mentioned by Pliny (*N. H.*, 9, 127). King Juba established dye works at Mogador, off the Atlantic coast (*ibid.*, 6, 201). Other marine

products were coral (*ibid.*, 13, 142) and sponges (*ibid.*, 31, 130-131; 9, 149; Martial, 4, 10, 5-6).

Although Pliny says that the best large thuya trees from which one-piece table tops could be made were exhausted by his time (*N. H.*, 13, 95), nevertheless the production of citrus-wood articles went on (see the numerous literary references cited in "Citrus" in *R.-E.*; a guild of *eborarii et citrarii* was active in Rome under Hadrian [J.-P. Waltzing, *Étude historique sur les corporations professionnelles chez les romains*, III, no. 1347]). Presumably the ivory-legged tables imported from Mauretania had tops made of this wood (Martial, 9, 22, 5; Juvenal, 11, 125). The wood apparently was offered sometimes to the imperial fiscus as payment of tribute (Statius, *Silvae*, 3, 3, 94).

Mauretania also yielded pearls (Pliny, *N. H.*, 9, 115) and amber (*ibid.*, 37, 37), and carbuncles were brought from the land of the Garamantes (Strabo, 17, 19). Ostrich eggs and plumes must have been exported, for ostriches were numerous (Gsell, *Hist. anc.*, I, 128-9).

### III. INDUSTRY

The chief industry of Africa was agriculture. The greater part of the active members of the population must have been engaged in producing the long list of products of the soil given above. Many of the products, such as olives, grapes, wool, and fish were processed in Africa before being exported.

The specialty products discussed above must also have given employment to many. The capture of animals for the games was a separate industry, to say nothing of the hunting of elephants for their ivory and of ostriches for their plumes and eggs, the gathering of shellfish and the manufacture of purple dye, and the production of slabs of thuya wood to be made into tables and smaller pieces such as writing tablets.

There is more evidence on the pottery industry than on any other. The evidence consists chiefly of lamps, for it is impossible to learn much from the few vases, dishes, and statuettes that have been found. Carton remarks that many of the lamps found in Africa have never been published, and estimates that perhaps only a tenth of those that were made bore a stamp or other marking (L. B. C. Carton, "Les fabriques de lampes dans l'ancienne Afrique," in *Bulletin de la société*

d'Oran, XXXVI [1916], 66-7; see in general "Lucerna," in *Dict. Ant.*, and F. de Cardaillac, "Histoire de la lampe antique en Afrique," in *Bull. Soc. Oran*, X [1890], 241-324).

Italian lamps seem to have dominated the African market during the early Empire, but before long the African makers began to offer competition. Many lamps of African makers reproduced the motifs most common in Italian lamps, especially mythological, animal, and genre scenes (L. Hauteceur, "Les lampes romaines du Musée Alaoui," in *Gazette des Beaux-Arts*, 1909, II, 265-285; the lamps which have not been taken to other countries are published in *Musées et collections archéologiques de l'Algérie et de la Tunisie*). This process of the development of African manufacture on foreign models is also illustrated by the fact that a certain Navigius in his establishment at El-Aouja, 30 km. south of Kairouan, produced handsome figured red vases with designs that came from Italy (A. Merlin, "Note sur des vases à figures provenant de la fabrique romaine d'El Aouja," in *Bull. com.*, 1920, pp. 21-8; cf. Rostovtzeff, *Soc. Econ. Hist.*, p. 163). Yet some of these African pottery firms had foreign as well as domestic markets, for their ware has been found in Italy, Sicily, Sardinia, Spain, Gaul, and Dalmatia (Carton, *op. cit.*, 75-87).

A hint at the method of appropriation of foreign designs is afforded by the discovery at Carthage of what apparently was a jobber's warehouse containing not only many lamps but also molds for ornamenting lamps with various designs, to be sold to small establishments (*Comptes rendus Acad.*, 1908, p. 601). Probably some of the small makers in the country had enough ability to make their own molds from fine lamps. There seem to have been a great many small pottery shops producing all kinds of pottery, for very cheap ware has been found in abundance everywhere. Many of the unsigned lamps of cheaper make are obvious imitations of those produced by the great factories. The Arabs of the region of Kasserine, Sbeitla, Feriana, and Thala are said at one time to have sold great quantities of good plain red ware of ancient manufacture, the source of which they would not disclose, but which must have been made in the vicinity (Carton, *op. cit.*, 92-5).

Some of the better firms, however, decorated their products with African subjects. The products of C. Junius Draci, for instance, evidently had more than local appeal, since they are found in Rome, South Italy, and Sardinia, as well as Africa (Carton, *op. cit.*, 82).

But a factory at Thuburnica, the products of which were decorated with typically African motifs, had only the neighborhood for its market (Carton, "L'art indigène sur les lampes de la colonia Thuburnica," in *Mémoires de la Société nationale des Antiquaires de France*, 1913, pp. 141-168). At Hadrumetum a fine local ware with a limited market was produced in the early third century (Carton, "Le Monte Testaccio de Sousse," in *Bull. de la Société archéologique de Sousse*, 1911-13, 115-116).

Terra-cotta figures signed by Navigius (*Bull. com.*, 1917, pp. ccxi ff.) and by Pullaenus (*Musées*, VII, 139, no. 67) have been found. They were also produced in a shop at Caesarea (*C. I. L.*, VIII, 22642, 6-7; *emite lucernas colatas icones*, "buy fine lamps and statuettes"). Certain unsigned terra-cotta statuettes of African manufacture have an interesting resemblance to well-known Gallic types (*Mél. d'arch. et d'hist.*, XI [1891], 511; XIII [1893], 190).

A modest number of bricks made in Africa have been found (*C. I. L.*, VIII, pp. 912, and 2173-6). The legion of Africa made many bricks (*ibid.*, pp. 911, 2171-3). Imported bricks are more numerous (see *infra*).

Over two thousand mosaics, large and small, have been found in Africa (G. Lafaye, A. Blanchet and others, *Inventaire des Mosaïques de la Gaule et de l'Afrique*). Many of these were manufactured in Africa, for some of the best-known ones, which are often reproduced, represent African scenes, and the fact that the African quarries offered an excellent assortment of colored marbles to work with ("Steinbruch," in *R.-E.*, Zw. R., VI, 2268-9) combined with the fact that the workmanship is often only of journeyman's quality indicates African manufacture rather than importation in most cases. This is particularly true of the mosaics of Mauretania Tingitana. They are of clumsy workmanship and their designs usually resemble those found in the other parts of Africa, as if they had been copied from cartoons by inferior local workmen. They show practically no connection with the mosaics of Spain and Gaul, in spite of the close relation of Mauretania Tingitana with those countries in other respects (R. Thouvenot, "L'art provinciale en Maurétanie Tingitane. Les mosaïques," in *Mél. d'arch. et d'hist.*, LIII [1936], 25-36).

Although there has not been sufficient investigation of the subject, it is possible that the mosaic industry presents a parallel to the lamp

industry in the appropriation of Italian and other designs. Many of the designs found in Africa are strikingly similar to those found in other countries (R. P. Hinks, *Catalogue of the Greek, Etruscan and Roman Paintings and Mosaics in the British Museum*, *passim*; Lafaye and Blanchet, *Inventaire*, *passim*; M. E. Blake, "The Pavements of the Roman Buildings of the Republic and Early Empire," in *Memoirs of the American Academy in Rome*, VIII [1930], 13-14). Possibly an examination of the provenience of the stone used would show that many of the mosaics found in other countries were made in Africa. Several mosaics found in Africa and other parts of the ancient world were made in sections with large tiles as backing so that they could be shipped conveniently and assembled without the joints being apparent ("Musivum Opus," in *Dict. Ant.*, VI, 2099). It is rather more likely, however, that a few large firms of mosaic-makers in Africa acquired repertories of designs from abroad and sent their workmen out to execute them and that some of these workmen were good enough artists also to do original designs and scenes to the specifications of the customer. Two mosaics recently discovered at Tipasa and Caesarea (Cherchel) offer an interesting parallelism in certain details which suggests that the workmen used common models for those sections; a certain ineptness in combining the figures also suggests copying from models beyond the skill of the workmen (L. Leschi, "Une mosaïque achilléene de Tipasa de Mauretanie," in *Mél. d'arch. et d'hist.*, LIV [1937], 25-41). It may be assumed that some of the cruder mosaics were designed and executed (or copied) by semi-professionals of inferior ability.

The archaeological evidence for industry is scanty. The remains of a small jewelry shop were found at Cuicul (*Musées*, II, 71). The excavations at Timgad have disclosed an industrial quarter, the establishments in which probably employed several men each. A bronze foundry, a glass factory, and a small ceramics factory are recognizable (*Bull. com.*, 1907, pp. 267-70). The remains of the shops of a baker, a miller, a potter, and an armorer have been found at Hippo Regius (A. M. de la Motte-Capron, "Les petits métiers à Hippone," in *Bulletin de l'Académie d'Hippone*, XXXVII [1930-35], 91-6).

Presumably there were some one-man shops. Apuleius says in his speech in his own defense (*Apologia*) that a certain small figure which his enemies called an instrument of magic was carved by an artisan

sitting in public view in his tiny shop (*Apol.*, 62). Possibly some of the small booths in the market places of the towns which will be discussed under "commerce" were used for a combination of manufacture and sale by one man.

Home manufacture is important in all agricultural countries, and it may be assumed that a great many simple products, such as clothes and furniture, were home-made. The woven products of Africa were well known abroad, as is shown by the Edict of Diocletian (see *infra*) and this may have been largely a home industry.

The following inscriptions contain information about men in industry, implying that the trades mentioned were practised in at least a limited way.

*CIL*, VIII, 21106 (at Caesarea) Vitulus argentarius caelator . . . cura conlegi fabri argentari, "Vitulus, a silver chaser . . . placed by the guild of silver-smiths."

9427 (at Caesarea) sodales fecerunt . . . monumentum . . . Felici impaestatori, "his associates gave this monument to Felix, an impaestator" (an embosser).

*Bull. com.*, 1930-31, p. 231, . . . to argentari; monumentum sodales fecerunt. Presumably this was a monument to a silver worker by his fellow members of the guild.

*CIL*, VIII, 21097 (a fragment at Caesarea) myrrepsi. The word myrrepsus probably means "maker of unguents and perfumes," like the Latin pigmentarius. These four inscriptions from Caesarea of workers in the luxury trades cannot be dated, but they probably reflect the impulse toward luxury there given by the brilliant reign of Juba II.

14314 (at Utica) multiciarius. The word probably means "maker of fine fabrics."

12575 (at Carthage) fullones, "the fullers."

23399 (at Mactar) corpus fullonum, "the fullers' guild," followed by a list of names.

*ILA*, 22 (at Gigthis) Memmio . . . Pacato . . . optimo patrono fullones domus eius, "to Memmius Pacatus, best of patrons, by the fullers of his household." Presumably this was a group of freedmen working in the home of their patron. Their product was probably sufficient for sale as well as for domestic use.

*CIL*, VIII, 3889 (at Lambaesis) fullo.

*ILA*, 396 (at Carthage) lanari, "woolen-workers."

62 (at Hadrumetum) vestiarius, "clothier."

*CIL*, VIII, 21848 (at Volubilis) collegi vestiariorum, "the clothiers' guild."

*ILA*, 243 sagari qui Thuburbo Maius morantur, "the makers of common cloth resident in Thuburbo Maius."

*CIL*, VIII, 5234 (at Hippo Regius) Abascanti Caesaris ex familia castrensi ex numero vestiariorum, "Abascantus, slave of Caesar, of the military division, one of the clothiers."

*CIL*, VIII, 7158 (at Cirta) sartor arenarius magister, "arena clothing master." Probably he headed a guild which made clothing for gladiators.

16710 (at Morsot) sutor, "shoemaker."

16877 (at Madauros) testarius, "potter."

16921 (near Madauros) *furnarius*, "baker."

4487 (at Tubunae) *faber ferrarius*, "blacksmith."

16533 (at Theveste) *faber*, "smith."

*ILA*, 256 (at Thuburbo Maius) *faber*.

*CIL*, VIII, 23242 (near Sufes) *ex officina Victoriana Alumnus Thamarithensis gratis edicla edificavit*, "from the shop of Victorianus, Alumnus Thamarithensis built this building free." There is no other indication as to what sort of shop it was.

*ILA*, 462 (at Bulla Regia) *structor*, "builder."

79 (near Kairouan) *quadratarus*, "stonecutter."

*CIL*, VIII, 21082 (at Caesarea) is an inscription on the base of a marble statue of Venus: *ex officina Murisi* . . .

#### IV. COMMERCE

The domestic trade of Africa had no unusual features. Every town of any size had a forum, in or near which was a market building or a basilica (*Thesaurus Linguae Latinae*, s. v. basilica; "Macellum" in *Dict. Ant. and R.-E.*). Many little booths with tables across the front have been found. At Thibilis they were in the market (Gsell, *Announa*, p. 76). At Gigthis they were in the basilica (Constans, *Gigthis*, pp. 91 f.). At Timgad they were around the forum (E. Boeswillwald, R. Cagnat, A. Ballu, *Timgad*, pp. 5 f.). At Volubilis they were in house fronts (*Comptes rendus Acad.*, 1916, p. 363). These booths could serve as retail stores or as a combination of shop and retail store as in the case of the artisan who carved the little figure in his booth in public view as told by Apuleius (*Apol.*, 62).

The establishment of a jobber of pottery at Carthage (see under "industry") and a building at Timgad which may have been a warehouse (Ballu, *Guide illustré de Timgad*, pp. 98-9) are the only evidence on middlemen. Wholesale trade is represented by the large pottery firms and by the exporters of some of the more important natural products, such as cereals and oil.

Market days were held in some of the country districts where the towns were few. *C. I. L.*, VIII, 23246 records a *senatus consultum* of 138 A. D. granting permission for the holding of market days on the *Saltus Beguensis*, the estate of Lucius Africanus, in southern Tunis, and *ibid.*, 6357 records that an imperial legate granted similar permission in 212 A. D. for *Castellum Mastarense*, between Cirta and Milev.

It is impossible to specify the objects of domestic trade, but presumably they included practically all the necessities of life and many luxury articles.

The chief exports of Africa in this period were cereals and oil. Not only do the large production and the general remarks of the Roman authors imply export, but there are a number of inscriptions which give more direct evidence. *C. I. L.*, VI, 1620 (at Rome, second century) is a dedication to the prefect of the annona by the *mercatores frumentari et oleari Afrari*, "the African grain and oil merchants." *C. I. L.*, II, 1180 (Hispalis in Baetica, late second century) is a dedication to a *praefectus annonae ad oleum Afrum et Hispanum recensendum*, "prefect of the annona for the estimate of African and Spanish oil." *C. I. L.*, XIV, 4142 (at Ostia) is a dedication to a grain merchant who had gained certain honors by the *domini navium Afrarum universarum*, "the masters of all the African ships," implying that their relations with and kindly feeling toward him had a connection with the grain trade. *Ibid.*, 4620 (at Ostia) is a dedication by the *corpus mercatorum frumentariorum*, "corporation of grain merchants," to a man who was quaestor of the aerarium at Ostia and had been made an honorary decurion of Hippo Regius.

Monte Testaccio, the great heap of fragments of jars near the Tiber in Rome, yielded only fifteen African markings of jars in the sampling that was made. They are *C. I. L.*, XV, 2633 and 3382-5 from Lepcis; 2634-6 from Tupusuptu, and 3375-81 from Hadrumetum. The jars probably contained oil and may date from the first century to the third. Egypt was a market for African oil during this period (A. C. Johnson, *An Economic Survey of Ancient Rome*, II, 352).

The products of several of the large pottery firms were exported (Carton, "Les fabriques," in *Bull. Soc. Oran*, XXXVI [1916], 75-87). Lamps bearing the stamp of the Pullaeni, a family which had a domain at Uchi Maius, have been found in Africa, Sicily, Ostia, Rome, Dalmatia, Transpadane and Narbonnese Gaul, and Spain. Carton was unable to find any trace of a factory at Uchi Maius and conjectures that it was at Carthage. Several firms seem to have marketed their goods only in Africa and Sardinia. What probably was the factory of L. Pompeius Pontianus in Carthage with stock ready to ship has been found (*Musées*, XIX, 29, no. 4). His lamps are found only in Africa and Sardinia (*C. I. L.*, VIII, 22644, 260 ff.; X, 3053, 165, 247, 251). Others whose markets were the same were L. Hortensius, L. Caprarius, and C. Iunius Alexis. Examples of the pottery of El-Aouja have been found in Spain (P. Paris, *Fouilles de Belo*, 163).



The question whether African mosaics were exported was discussed above in connection with the subject of their manufacture. Although their export seems rather doubtful, it is plain that the marble of Simitthus was used with non-African marbles in some of the mosaics of Augustan date and later which have been found in Italy (M. E. Blake, "Roman Mosaics of the Second Century in Italy," in *Mem. Amer. Acad.*, XIII [1936], 71). A passage of Horace seems to refer to the use of African marble in Italian mosaics. *Epist.*, 1, 10, 19, *deterius Libycis olet aut nitet herba lapillis*, "does the grass have less sheen or fragrance than African pebbles?"

Lepcis, Oea, and Sabrata may have been terminals of caravan routes coming from the interior (Gsell, "La Tripolitaine et le Sahara au troisième siècle de notre ère," in *Mém. Acad. Inscr.*, XLIII [1933], 149-166; P. Romanelli, *Leptis Magna*, pp. 26, 156; Romanelli, "L'economia della Tripolitania romana," in *Rivista delle colonie italiane*, III [1929], 544). No ancient source states that there was such a trade, but such well-known products as ivory, gems, slaves, beasts for the games, and perhaps gold dust must have been brought from the interior by caravan, and these cities were the logical terminals then as now.

The activity of Africans as agents for exports to Rome is testified to by the mosaics of the "Piazzale delle Corporazioni" at Ostia (G. Calza, "Il piazzale delle Corporazioni," in *Bullettino della commissione*, XLIII [1916], 178-206; *C. I. L.*, XIV, 4549). Apparently this edifice contained the offices of shipping corporations engaged in transporting to Rome the various necessities which constituted the *annona*. We may assume that cereals were the chief item from Africa during this period, with wine and oil in a subordinate position. The building seems to date from three periods, those of Augustus, Claudius, and Commodus. Almost all the mosaics belong to the period of Commodus (Blake, "The Pavements," p. 101).

The inscriptions on the mosaics (following the version of *C. I. L.*, XIV, 4549) are as follows: 10. *Naviculari Misuenses hic*, "the shippers of Misua have their office here." 11. *Naviculari . . . Calza* (*Bull. della commissione, supra*), reads the fragments of the second word as "Muslavitani," from Musluvium in Mauretania Sitifensis, but the editor of this volume of the *Corpus* finds the fragments undecipherable. 12. *Navicular . . . Diarry*. . . Obviously Hippo Diar-

rhytus. 14. *Stat Sabratensium*. 17. *Naviculari Gummitani de suo*. Two towns named Gummi were in the proconsular province (*R.-E.*, VII, 1935). 18. *Navicui Karthag de suo*. 23. [*Navic*]ulari *Syllecti[ni]*. Sullecthum, a town in Byzacena. 34. *Naviculari Curbitani d s SNFCC*. The last letters may mean *statio negotiatorum frumentariorum coloniae Curbitanae*, "the office of the grain dealers of the colony of Curubis." 48. *M C*. Perhaps "Mauretania Cacsariensis." 58. *S R*. Although these letters are generally believed to mean *stupatores restiones*, "the oakum- and rope-makers," they could mean *Statio Rusicadensium*, *Statio Ruspiniensium*, *Statio (Hipponiensium) Regiensium* (cf. 12), or *Storensium et Rusicadensium*. Cf. *C. I. L.*, VIII, 7960 (Rusicade) which commemorates *inter alia* the erection of a statue of the *genium annonae sacrae urbis*, and 19852, which commemorates the erection of a *horreum*, or granary, there. This mosaic is the only one of those cited which belongs to the Claudian level. It might have been put there at any time before Commodus' reconstruction, however. The others were put in after that reconstruction.

A surmise can be made as to the products handled by some of the groups who occupied these offices. Missua probably exported cereals, since cereals are the only known product of the region of any importance. Cereals were the logical export from Hippo Diarrhytus. The mosaic of the Sabratans has an elephant below the words "*Stat Sabratensium*," and it may well be that ivory from the interior was the product most handled by them. If Gummi was the place of that name near Carthage, its representatives may have handled cereals and oil. Carthage probably exported cereals and oil from the lower Bagradas Valley. It may also be conjectured that there were cloth factories at Carthage as there were in the third century (see *infra*, ch. iii). Sullecthum doubtless exported oil. Curubis, like Sullecthum, was the natural port for an oil-producing district, but it may also have handled cereals from farther north in the peninsula. If *SR* stands for *Statio Rusicadensium*, *Storensium et Rusicadensium*, or *Statio (Hipponiensium) Regiensium*, the agents probably handled cereals. If, on the other hand, it stands for *Statio Ruspiniensium*, they probably handled oil.

Strabo testifies in a stray remark to the briskness of the trade between Africa and Ostia (3, 2, 6): τὸ δὲ πλῆθος μικροῦ δαῖν ἐνάμλλον | τοῖς

Αἰβυκοῖς, "their number [ships from Turdetania to Ostia] very nearly rivals that of the Libyan ships."

At the end of the reign of Commodus a regular African grain fleet was organized, apparently to make the supply more sure (*Vita Commodi*, 17, 7; cf. Rostovtzeff, *Soc. Econ. Hist.*, p. 595, n. 4).

The imports of a country so rich in the necessities of life and in rarities as Africa would naturally consist chiefly of manufactured articles. Such articles as clothing, wooden furniture, or paintings, for example, do not survive so many centuries, and the less perishable articles such as jewelry still await classification, so that we have practically no evidence on imports. We should expect the imports to be either cheap wholesale products, such as pottery, or articles of luxury not obtainable in Africa, for the agricultural population must have made most of its own ordinary goods and African industry must have supplied most of the other common articles required except when it was undersold by foreign firms. That the more prosperous Africans, of whom there were many, had a taste for fine things comparable to that of the Romans and other foreigners is proved by the remains of their houses.

Many Italian lamps were imported (*C. I. L.*, VIII, pp. 914 ff., 2211 ff.). Some apparently were imported from Alexandria (*Bull. com.*, 1891, 547). A few pieces of the famous Arretine ware have been found at Carthage (*Musées*, VIII, pt. 2; *Bull. com.*, 1928-9, 217), at Hadrumetum (Carton, "Le Monte Testaccio de Sousse," in *Bull. Soc. Arch. Sousse*, XVIII [1911-13], 77 f.), at Caesarea (*C. I. L.*, VIII, 22645, nos. 60, 92, 114-15, 117, etc.; cf. Gsell, *Hist. anc.*, VIII, 231-2), at Siga (P. Grimal, "Les fouilles de Siga," in *Mél. d'arch. et d'hist.*, LIV [1937], 133), and in various places in Mauretania Tingitana (*Bull. com.*, 1914, pp. cxlix-cliii; *ibid.*, 1915, clxxvii-clxxx; *ibid.*, 1916, cxxiv-cxxix; *ibid.*, 1917, ccix-ccxv). The Gallic ware known as *terra sigillata* was also imported in limited quantities (see indexes of J. Déchelette, *Les vases céramiques ornés de la Gaule romaine*, and of F. Hermet, *Les graffites de la Graufesenque*; cf. Carton, *op. cit.*, 119, n. 1, and Gsell, *loc. cit.*). Pottery from south Gaul of the reigns of Claudius and Vespasian and from la Graufesenque of the reigns of Claudius, Nero, and Vespasian has been found at Sala ("Estampilles de poteries romaines trouvées au Maroc," in *Bull. Soc. Oran*, LV [1934], 348-51).

A number of imported bricks have been found (*C. I. L.*, VIII, pp. 2173-8). A pig of lead found at Cherchel seems to have come from Spain (*C. I. L.*, VIII, 10484; M. Besnier, "Le commerce du plomb," in *Rev. Arch.*, XIV [1921], 99), likewise one found at Volubilis (*Bull. com.*, 1928-9, 416-7). We learn from Strabo (3, 4, 2) that Malaca served as emporium for the African coast opposite.

The evidence relative to men engaged in trade is fairly plentiful and throws some light on trade itself.

*C. I. L.*, VIII, 16878 (at Madauros) has the words "thus" and "piper" flanking an epitaph; the deceased apparently was a merchant of unguents and spices. *Ibid.*, 12574 (at Carthage) seems to refer to a *collegium vinariorum*, "corporation of wine merchants." *Ibid.*, 24520 (at Carthage) refers to *oenopolae*, "wine sellers." *An. Ep.*, 1925, 45 (bis) is the epitaph of an *oliarius*, "oil dealer" at Caesarea. *C. I. L.*, VIII, 9409 (at Caesarea) is a memorial erected by the *caupones*, "innkeepers." *I. L. A.*, 62 (at Hadrumetum) refers to a *vestiarius*, "clothier," as does *C. I. L.*, VIII, 20967 (at Caesarea), and *ibid.*, 21848 (at Volubilis) refers to a *collegium vestiariorum*. The *vestiarii* may have engaged in both the manufacture and the sale of clothes. The same is true of the *lanarii*, "woolen-workers" (*I. L. A.*, 396, at Carthage). *C. I. L.*, VIII, 421 (at Ammaedara) is the epitaph of a *palearius*, "chaff (or straw) merchant" (?). *Ibid.*, 152 is an epitaph to his wife by a merchant who had resided at Rome for business purposes for some time, then had returned to Carthage. *Ibid.*, 868 (at Giuffa) is an epitaph containing the words *amore ductus pelagi mercib insistebam*, "led by my love of the sea I engaged in trade," and *ibid.*, 5749 tells the same story. *Ibid.*, 7149 (at Cirta) is the epitaph of a *negotiator*, "trader," as is *ibid.*, 7999 (at Rusicade). *I. L. A.*, 306 is a dedication by the *cives Romani* qui Thinnissut negotiantur, "the Roman citizens in business at Thinnissut." *C. I. L.*, III, 5230 is the epitaph of a *civis Afer negotians* at Celeia in Noricum. C. Sempronius Gracchus, son of the adulterer of the notorious Julia, who had been raised by his banished father on the island of Cercina, "engaged in petty trade between Africa and Sicily" (per Africam et Siciliam mutando sordidas merces sustentabatur; Tacitus, *Ann.*, 4, 13). *C. I. L.*, X, 1684 is a dedication by the [Oe]lenses at Puteoli. The "Sabrathenses ex Africa" dedicated a statue to Sabina, Hadrian's wife (*Notizie degli scavi*, IX [1933], 432-3).

A moralizing remark of the elder Pliny implies a great deal but gives us little definite information. *N. H.*, 5, 12: "For my own part, I am far less surprised that there are still some facts remaining undiscovered by men of the equestrian order, and nowadays by those who are entering the Senate from that order, than that the love of luxury has left anything unattained; the greatness and the power of which we realize when the forests are scoured for ivory and citron-wood, and all the Gaetulian rocks for the purple-bearing shellfish."

The system of roads in Africa was well developed by the end of this period. As has been more than once remarked, the roads all sought the sea rather than having certain important cities as their focus. Every part of the interior had a reasonably direct route to the sea, and these roads were connected at many points by crossing roads of secondary importance, so that the country was adequately equipped with a net-

work of roads (see "Via," in *Dict. Ant.*, with map, and K. Miller, *Itineraria Romana*, pp. 885-951, with maps).

The imperial government built comparatively few roads. Most of them were built for military purposes, as is plain from their course and the history of the country, but they were open to commerce. The formulas used on the milestones usually disclose whether a given road was built by the imperial government or by the municipality in whose territory it lay (Cagnat, *L'armée*, p. 697; cf. the somewhat less inclusive system of Mommsen in *C. I. L.*, VIII, pp. 859-60). The road may be considered imperial if the milestones state that the emperor or his legate made the road, if the *legio III Augusta* is mentioned, or if the emperor's name appears in the nominative case or in the ablative case followed by that of his legate in the ablative case. When, however, the emperor's name appears in the dative case, the road was built by the municipality in whose territory it lies and dedicated to him. The imperial roads number their miles from the army camps, the coast, or important towns; the municipal roads are numbered from the town to the border of its territory.

The stones of Caracalla are a minor exception to this rule. A great many milestones bear his name in the nominative case, almost always with the date 216 A. D. (rarely 215 or 217). The stones occur on roads that seem to have been municipal as well as on those which surely were imperial. Usually they have the one word *restituit*, "repaired," to describe the work, but some specify that *miliaria restituit*, "he restored the milestones." It may well be that the imperial government ordered a general overhauling of the roads and that the emperor's name appears in the nominative even on roads that the municipalities restored at his order, although the dative occasionally occurs. *C. I. L.*, VIII, 21947, for instance, bears his name in the nominative, although the miles are numbered from Cillium, a small town. Some of the roads were in country where a road may be made simply by marking its course and where there was little heavy traffic, and it was on these that the inscriptions on the milestones state only that he restored the milestones, that being the chief part of overhauling the road.

The care of the imperial roads apparently was given over to the municipalities at about the middle of the third century, for at this time the new milestones began to bear the emperor's name in the dative

case. The government doubtless took care that the municipalities discharged the obligation faithfully.

The imperial roads for the existence of which there is evidence are as follows:

1. From Lepcis to the interior of Tripoli. The one milestone known reads Imp(eratoris) Ti(beri) Caesaris Aug(usti) iussu L(ucius) Aelius Lamia Proco(n)s(ul) ab oppido in mediterraneum direxist m(ilia) p(assuum) XLIV (G. Guidi, "I monumenti della Tripolitania romana," in *Africa romana* [Istituto di studi romani, 1935], p. 238; unfortunately the provenience of the stone is not stated). This was a military road, built as a consequence of the recent warfare with the tribes of the interior.

2. The shore road from Lepcis to Tacapae (*C. I. L.*, VIII, 10016; some new milestones of this road are published by S. Aurigemma, "Pietre miliari Tripolitane," in *Rivista della Tripolitania*, II [1925], 1-21, 135-50).

3. From Tacapae through Capsa to the camp of the legion at Ammaedara. This road was finished in 14 A. D. (*C. I. L.*, VIII, 10018). On the site of the camp see De Pachtère in *Comptes rendus Acad.*, 1916, pp. 273-284.

4. From Capsa to Turris Tamalleni, the chief town of the Nybgenii (Cagnat, *L'armée*, p. 697; Barthel gives the inscriptions of the milestones in *Bonner Jahrbücher*, CXX [1911], 87-9). The road evidently was built in connection with the limitation of the territory of the Nybgenii.

5. Carthage to Theveste (*C. I. L.*, VIII, 10048 and others). The inscriptions state that in 123 A. D. the emperor Hadrian "paved the road from Carthage to Theveste by the third Augustan legion" (viam Karthagine Thevestem stravit per leg. III Aug). It is possible that the paving of this road was intended as a gift to the province as much as a military measure, for the legion at Lambaesis could communicate with the sea more easily by Cirta and Rusicade, and the road from Theveste to Hippo Regius built under Vespasian (no. 7 below) assured military communication for Theveste, while this road ran through a peaceful and prosperous country. The capital and greatest port, however, was Carthage, and the road doubtless was not without military significance.

6. From Theveste to Thamugadi (Timgad). This was built by Trajan's order in 100 A. D. (*C. I. L.*, VIII, 10186).

7. From Theveste to Hippo Regius, built by Vespasian in 75 A. D. (*ibid.*, 10119).

8. From Theveste to Thelepte, restored by Trajan (*ibid.*, 10037).

9. From Carthage to Hippo Regius, built by Tiberius (*ibid.*, p. 2118).

10. From Hippo Regius to Calama, restored by Antoninus Pius (*ibid.*, 22210).

11. From Thabraca to Simitthus, built by Hadrian in 129 A. D. (*ibid.*, 22199). This route had been used for a long time for the transport of marble.

12. From Lambaesis to Ad Piscinam through the pass of Tighanimin in the Aurès Mountains, built by Antoninus Pius (*ibid.*, 10230).

13. From Lambaesis to Ad Piscinam around the western slope of the Aurès mountains and through the pass of El-Kantara (Calceus Herculis), repaired in 193 A. D. by Pertinax (*ibid.*, 22337).

14. A road linking the posts on the *limes* south of the Aurès Mountains (Cagnat, *L'armée*, p. 44).

15. From El-Kantara to Ausum (modern Sadouri), thence to the fortress of El-Gahra (J. Carcopino, "Sur l'extension de la domination romaine dans le Sahara de Numidie," in *Revue archéologique*, XX [1924], 319-20).

16. From Sitifis to Mons (?); Septimius Severus restored the milestones (*C. I. L.*, VIII, 10351).

17. From Sitifis to Zará; Septimius Severus restored the milestones (*ibid.*, 10361).

18. From Sitifis to Auzia, apparently built by Hadrian (*ibid.*, 10363).

19. From Auzia through Rapidum, built by Antoninus Pius (*ibid.*, 10439).

20. The *limes Mauretaniae Caesariensis*. This probably ran from Rapidum through Usinaz to Boghar (ancient name uncertain), 100 km. south of Algiers. Albertini has traced it in detail from Boghar west for about 60 km., then south toward the modern Frenda and Saïda, then northwest through Ala Miliaria, Lucu, Caput Tasaccorae, Altava (La Moricière), and Pomaria (Tlemcen), to Numerus Syrorum (Lalla-Marnia) (E. Albertini, "La route frontière de la Maurétanie Césarienne," in *Bull. cinquantenaire Soc. Oran* [1928], 33-48; see the map at the end of Cagnat, *L'armée*).

Many roads have the emperor's name in the dative on the milestones from a fairly early time, and should be classed as municipal rather than imperial. The miles are numbered from the town in the territory of which the road lies in a number of instances, such as *C. I. L.*, VIII, 10038, numbered from Sufetula, *ibid.*, 21947, numbered from Cillium, *ibid.*, 10151, numbered from Cirta, *ibid.*, 10210-10229 numbered from Timgad and Lambaesis toward each other. The road from Timgad to Lambaesis also has the names of the two towns on some of the stones. The road from Theveste to Cirta seems to have been municipal, for the names of the emperors are usually in the dative and the stones numbered from the several towns (*ibid.*, 10151, 10129). The emperors whose names appear in the nominative are those with whom this most often happens, Elagabal, Alexander Severus, and Constantius.

The road from Cirta to Rusicade was built by the city of Cirta with the aid of the owners of abutting property, but the occurrence of the name of an imperial legate and the occurrence of the formula "ex auctoritate imperatoris" suggests that the government was interested in this road, for the usual municipal road has no such formula (*ibid.*, 10296, ex auctoritate imp . . . Hadrian . . . pontes viae novae Rusicadensis r p Cirtensium sua pecunia fecit Sex Iulio Maiore leg Aug leg III Aug pr pr; *ibid.*, 10322, ex auctoritate imp . . . Hadriani via nova Cirta Rusicadem strata per possessores territori Cirtensium). The road from Lambaesis to Cirta, completing the connection between the sea and the camp, seems also to have been built by the municipalities, perhaps likewise at the request of the government (*ibid.*, 10280; 10295).

There is some uncertainty as to whether some of the other roads in Algeria were municipal or imperial. Although one milestone on the road from Cirta to Sitifis in which the case of the emperor's name cannot be read simply states that the *respublica Suburburum colonorum* repaired the road (*C. I. L.*, VIII, 10335) another has the names of Severus and Caracalla with the ending of the dative or ablative and at the end the name of the legate, Q. Anicius Faustus, in the ablative, followed by the name of the same town (*An. Ep.*, 1917, 45). This road presumably was one built or maintained by a town at the order of the emperor, like the road from Cirta to Rusicade. Then, although Septimius Severus' procurator Cn. Nunnus Martialis restored the milestones on the roads from Sitifis to Mons (*ibid.*, 10351) and from Sitifis to Zará (*ibid.*, 10361) in 195 A. D., which apparently means that the roads were imperial, yet a doubt is raised by the fact that the town repaired the roads three years later and set up milestones which bear the emperor's name in the dative case (*ibid.*, 10351, 10362). It is tempting to suppose that the roads were municipal and that the imperial restoration of the milestones was a measure taken in connection with the definitive establishment of the *limes* slightly farther west, or that this was another road built and maintained by a municipality at the instance of the government. Another instance of such procedure is the building of a road of

unknown destination by the town of Milev at the instance of the government, but with permission to gather money "from a wheel tax" (*de vectigali rotari*), apparently a toll (*ibid.*, 10327).

The names of towns appear on several other milestones, all apparently belonging to municipal roads (Sitifis, *ibid.*, 10337, 10347, 10365; Phua, *ibid.*, 10326; Portus Magnus, *ibid.*, 10457; Lamasba, *ibid.*, 10401, 10403; Diana, *ibid.*, 10384; Hippo Regius, *An. Ep.*, 1915, 31).

Although no milestones have come to light in Mauretania Tingitana, the itineraries give two main roads, Tingi to Sala and Tingi to Volubilis.

There were a great many harbors of varying importance on the African coast. Many places were ports which never can be again, for the smaller seagoing vessels of ancient times could ride in shallower water, and the comparative difficulty of land transport in ancient times made it imperative to ship products from the nearest possible point on the seacoast. The two itineraries and the geographer Ptolemy mention a great many towns and settlements on the coast; after those have been eliminated which were not ports or were obviously of no importance as ports, there still remain many more ports than there are now or will be.

Seagoing vessels called at Lepcis, Oea, and Sabrata to receive oil, perhaps wheat, and the exotic goods brought in by caravans from the South. Gigthis had a harbor with docks, in the remains of which large jars, apparently for oil, were found (Constans, *Gigthis*, p. 69).

The eastern and northern coasts of the proconsular province had a number of ports (Toutain, *Les cités romaines*, ch. x). Carthage probably had the greatest volume of exports, for it had the lower Bagradas Valley as its hinterland. The scanty information available does not permit a thorough classification of the other ports, but Hadrumetum was probably the most important. Remains of harbor structures such as moles and docks have been found at Acholla, Thapsus, Leptiminus, Hadrumetum, Horrea Caelia, Neapolis, Clupea, the town now called Dagla, Aquilaria, and Carthage (K. Lehmann-Hartleben, "Die antiken Hafenanlagen des Mittelmeeres," in *Klio*, Beiheft XIV [1923], 1-304; see the *Katalog* of remaining harbor structures, pp. 240-287). The shippers of Missua, Curubis, and Sullethum had offices at Ostia (see *supra*). Utica had a harbor, but probably declined in importance as Carthage rose in the early Empire. The insignificance of Hippo Diarrhytus is attested by a letter of the younger Pliny (9, 33). Tacapae was a fairly important port (Strabo, 17, 3, 17). There is no



direct evidence of shipping from Thaenae and Taparura, but the lack of other ports for their rich oil-producing hinterland makes it probable that both were exporting points. Thabraca was probably an active port, shipping the marble of Simitthus and perhaps wood from the forests near it.

The first important port west of Thabraca was Hippo Regius (*Atl. arch. Alg.*, fe. 9, 59). This was the port for a rich country. A more important port was the joint one of Rusicade and Stora. Rusicade was the shipping point for the rich region to the south of it and was a natural port for the great camp at Lambaesis. Dedications to the *Genius coloniae Puteolanae* (*C. I. L.*, VIII, 7959) and to the *Annona sacrae urbis* (*ibid.*, 7960) suggest its importance in the provisioning of Rome. Its harbor and its many buildings are described in *Atl. arch. Alg.*, fe. 8, 196. Stora seems to have served as a supplementary port (*ibid.*, 194). A granary was built there by the emperors Valentinian and Valens (*C. I. L.*, VIII, 19852). As was suggested above, the letters ST R in office no. 58 of the building at Ostia may mean Stora et Rusicade or Storenses et Rusicadenses.

West of Rusicade were a number of ports of less importance, Chullu, Igilgili, Choba, Muslubium, Saldae, which probably was the most important of the group (see *Atl. arch. Alg.*, fe. 7, 12), Rusguniae, Icosium, and Tipasa. Caesarea, on the other hand, was important, although its importance may have been more political than commercial. It was the capital of Juba II and his son Ptolemy, the client kings of Mauretania, and later was the base for the fleet which patrolled the Mauretanian coast (Cagnat, *L'armée*, pp. 280-284). Its commercial relations with Italy are attested by the numerous finds of Arretine pottery (see *supra*), and those with Gaul by the numerous finds of pottery from la Graufesenque (see *supra*). Commercial relations with Spain might be expected, and are attested by the find of Spanish pigs of lead in the harbor (see *supra*) and by the evidence of exchange of coins and by the honors paid to Juba and Ptolemy at Gades and Nova Carthago (Gsell, *Hist. anc.*, VIII, 232).

The only other port worth mentioning is Tingi, the port by which Mauretania Tingitana communicated with Spain (Strabo, 3, 1, 8; 3, 4, 2).

River traffic was practically impossible, since most of the rivers go dry in the summer. Pliny mentions three unimportant rivers of Maure-

tania which were navigable (*N. H.*, 5, 18). Cf. *C. I. L.*, VIII, 21568, a guild of boatmen at Benian, in Mauretania, perhaps on the Chélif River.

## V. LABOR

Labor cannot be described in the exact and statistical manner which the modern reader expects. What proportion of the laborers of Africa were slaves cannot be ascertained. It may reasonably be assumed that a large part of the land was worked by free men (see under "property"). There are scattered pieces of information about slaves, some of which are of economic significance. A person in Petronius' *Satyricon* says that he has so many slaves here and there in the fields of Numidia that they could even capture Carthage (*Sat.*, 117, 8). Allowing for exaggeration this seems at least to attest some use of slaves in agriculture. The wife of Apuleius gave some four hundred slaves to her children (early second century; *Apol.*, 93). The tariff on a slave in the tariff list of Zarái (beginning of the third century; *C. I. L.*, VIII, 4508) was 1½ denarii; the price probably was 500 denarii, a fairly common price. See S. Gsell, "Esclaves ruraux dans l'Afrique romaine," in *Mélanges Glotz*, pp. 397-415.

*C. I. L.*, VIII, 11824 (third century) is a verbose metrical inscription which may be paraphrased as follows: "I was born of very poor parents and cultivated the little patch of land I was born on. In the fall I led a gang of reapers wherever there was harvesting to be done. Finally I arrived at a position of comparative ease and enjoyed honors." Doubtless there were many such travelling gangs of harvesters. Apuleius speaks of the exchange of labor at busy times between non-slave owners (*Apol.*, 17, 1).

The following industrial and commercial corporations, or guilds, are attested by sound evidence:

1. Silver workers at Caesarea (a) *C. I. L.*, VIII, 9427 (b) *ibid.*, 21106 (c) *Bull. com.*, 1930-31, p. 231.

2. Fullers (a) at Carthage, *ibid.*, 12575 (b) at Mactar, *ibid.*, 23399 (c) a household association, probably freedmen, at Gigthis, *I. L. A.*, 22.

3. Guilds which may have both made and dealt in cloth and clothing (a) at Volubilis, *collegium vestiariorum*, *C. I. L.*, VIII, 21848 (b) at Carthage, lanarii, *I. L. A.*, 396 (c) *sagari qui Thuburbo Maius*

*morantur*, *ibid.*, 243 (d) at Cirta, *sartor arenarius magister*, probably the head of a guild for outfitting gladiators, *C. I. L.*, VIII, 7158.

4. Commercial corporations (a) at Carthage, *collegium vinariorum*, "wine merchants," *ibid.*, 12574 (b) at Carthage, *oenopolae*, "wine sellers," *ibid.*, 24520 (c) at Cacsarea, *caupones*, "innkeepers," *ibid.*, 9409 (d) at Benian, in Mauretania, *barcarii*, "boatmen," *ibid.*, 21568.

The extraordinarily small number of guilds in Africa has often been remarked. Hirschfeld conjectured that the government was opposed to them (*Gallische Studien*, III, 249). If this were true, there could hardly have been even as many as are given in the list above. Kornemann suggested that the failure of the African communities to adopt the standards of the Roman communities was the cause ("Collegium," in *R.-E.*, IV, 393). This suggestion, which was made when much of the above evidence had not been discovered, contains part of the proper explanation, as will be seen from the following discussion.

There are two reasons that may suffice to account for the scarcity of industrial and commercial corporations in Africa. The first is that the natural conditions were not such as to give rise to corporations, and the second is that certain conditions, notably the ease of import, prevented such a growth of industry as would result in the formation of corporations.

Africa was predominantly an agricultural country. The mass of the inhabitants, both native and foreign, were chiefly concerned with the production of agricultural raw materials. Home manufacture of articles of daily use must have been the rule among a large part of the population, and such articles must have proved satisfactory. The evidence of the inscriptions and of the archaeological finds proves, however, that there were many people who had a taste for articles of better workmanship. But these people were scattered in many small towns, so that it was difficult for any town to develop an industry large enough to give rise to a guild. The one industry which had a number of guilds was the manufacture of cloth and clothing. The guilds at Caesarea must be eliminated from the discussion, because they probably represent the influence of the brilliant reign of Juba II. There remain, then, the fullers of Carthage, Mactar, and Gigthis, the clothiers of Volubilis, the *lanarii* of Carthage, the *sagari* of Thuburbo Maius, and the outfitters of gladiators of Cirta. An agricultural country where

many sheep were grown might be expected to have many skilled workers in cloth, and the cloth of Africa was the only manufactured product which enjoyed an international reputation. In other words, the one industry which is represented by a number of guilds is the one for the development of which conditions were most favorable and the one which had the widest market.

The rise of other industries less peculiarly suited to the country but which might have found a market among the upper part of the population was hindered by certain conditions. The use of slaves, who ordinarily did not form corporations, was a hindrance to industry manned by free men in Africa as in the rest of the ancient world. It may be conjectured that the well-developed pottery and mosaic industries in Africa employed slave labor, since there is no record of guilds in those industries. Probably the chief hindrance to the development of African industry, however, was the satisfaction to be obtained by the import of goods of somewhat superior workmanship to the home-made goods. The foreigners resident in Africa naturally preferred the goods of international reputation with which they had been acquainted, and the upper class of the natives, who were peculiarly subject to the desire to seem highly civilized, doubtless enjoyed the distinction of possessing imported goods. The superior attractiveness of European goods to American consumers is due to the same principle. The great export of agricultural products to Rome made communications excellent, and the freight charges in the ships returning from Ostia or Puteoli must have been reasonable. Doubtless many products came directly from the Orient. Given all these circumstances, then, the scarcity of guilds in Africa was only natural.

## VI. WEALTH; FOUNDATIONS; PRICES; FINANCE AND MONEY

In the middle and late second century of the Christian era Africa was at the height of its material prosperity. The productive land was at its greatest extent and its capacities were understood. The possibilities in specialty products such as purple dye or garum had been explored.

It is impossible to determine whether the earlier-settled parts of the country were more prosperous at this time than they had been in the first century after Christ or in the first century before Christ. In both

the earlier centuries cereals had been the chief export, and the demand of the city of Rome for cereals was apparently large enough to justify nearly full-capacity production. It is difficult to imagine the source of a striking increase in prosperity. The more recently settled regions of the South and of western Algeria, on the other hand, must have been far more productive and prosperous in the second century than ever before. It may be imagined that their new prosperity also had some effect on conditions in the older regions.

The great increase in building operations, in the number of statues erected, in the number of gifts such as dinners and games by citizens to their towns, and of plain dedications suggests a marked increase in prosperity. These activities do all imply expenditure of more or less money and do attest a certain increase in prosperity, but the general impression given by their numbers is misleading. In the first place, about a tenth of the dedications and a few of the buildings must be ruled out because they were made by legates of the emperor whose financial fortunes probably did not depend much on African investments. In the second place, a goodly proportion of all these activities took place in the older regions, where money for such purposes must have been available long before the second century. In the third place, it must be observed that all the evidence proves only that money was spent; there is no sure evidence of a great expansion of the visible paraphernalia of making money, such as buildings for practical purposes, roads, or harbor facilities. The increase in such activities, then, may not be taken as a statistical index of the increase in prosperity, but is partly to be explained by an increase in prosperity, partly by the fact that the custom of giving to one's municipality and fellow-citizens spread over the whole Empire at this period (B. Laum, *Stiftungen in der griechischen und römischen Antike*, II, 8-11).

The number of gifts and dedications began to increase under Trajan and Hadrian, two emperors who were unusually interested in the provinces, and increased steadily until the reign of Septimius Severus, after which it decreased sharply. After Alexander Severus there were practically no dedications by private citizens; almost all were by imperial officials and by municipalities. It is also noteworthy that from Hadrian to Severus the number of small gifts increased far more than the number of large ones. This may indicate an increase in the number of modest fortunes, but it may also indicate that the man of modest

means had come to feel, as he had not felt in earlier times, that for him to leave some modest memorial to himself, his generosity, and his public spirit was desirable and appropriate. The majority of these gifts and dedications were made by men who bore African names; the Punic cities of Tripolitania and the east coast of Tunis are very sparsely represented.

The number of dedications to Septimius Severus, the African emperor, is much larger than to any other emperor. Severus granted special favors to his native Africa, in return for which the Africans honored him. He granted an advance in municipal status to a modest number of towns in Africa (Broughton, *Romanization*, p. 153). He gave Lepcis, his native town, a forum and a number of new buildings (Romanelli, *Leptis Magna*, p. 21 and index s. v. L. Settimio Severo imperatore). Two favors which seem to be attested by the evidence of coins are the remission of the tax imposed upon Carthage to pay for the aqueduct of Carthage built by Hadrian and secondly the restoration or embellishment of the temple of Esculapius on the Byrsa (E. Babelon, "Les monnaies de Septime Sévère, de Caracalla et de Géta relatives à l'Afrique," in *Rivista italiana di numismatica*, XVI [1903], 157-174).

The advance in status of many towns during the second century seems to indicate an advance in prosperity (Broughton, *Romanization*, p. 151), but it is not certain that this is true. For instance, Trajan granted the title of colony to Hadrumetum (*C. I. L.*, VI, 1687) and to Lepcis, Oea, and Sabrata (Broughton, *op. cit.*, p. 132), but those towns must have enjoyed considerable prosperity and a responsible municipal government for a long time. Further, many of the smaller towns seem to have been soundly prosperous for a long time before receiving advancement to the rank of *municipium*, although evidence is lacking for the early history of many others. It is probable that the emperors of this period wished to widen the basis of recruitment for the army by the extension of citizenship implied in municipal advancement and to increase the loyalty of the provinces to the imperial régime. It is also probable that the rights of Roman citizenship were attractive to many provincials, in spite of its duties, as is suggested by the fact that municipal advancement was actively solicited by Utica and Gigthis and doubtless many other towns (*C. I. L.*, VIII, 22737; 1181; Aulus Gellius, *Noctes Atticae*, 16, 13).

Besides disclosing a general trend, as has been shown in the preceding pages, these inscriptions recording gifts and dedications reveal a limited amount of more specific information.<sup>7</sup> In the first place, the inscriptions concerning the interesting institution of the *summa legitima* offer some comparative data on the wealth in the towns ("Summa Honoraria" in *R.-E.* and *Dict. Ant.*; W. Liebenam, *Städteverwaltung im römischen Kaiserreiche*, pp. 54-65). The incumbents of the municipal offices through the Empire were not paid for their services, but contributed a fixed sum to the town upon their election to the office, or honor. The term *summa honoraria*, which sometimes occurs, is evidently derived from this meaning of *honor*, and is equivalent to *summa legitima*.

Although inscriptions mentioning this institution have been found in many parts of the Empire, the inscriptions of Africa give an especially rich yield of information about it. This fact is probably due to the great enthusiasm of the people of Africa for glorifying themselves and their towns, for such inscriptions in most cases are called forth by the fact that the new official has given, not only the legal sum, but something additional, and wishes the public to be informed and reminded of the whole proceeding.

Most of the inscriptions mentioning the *summa legitima* were set up during the reigns from Hadrian through Septimius Severus, the period which was most productive of other inscriptions. There is no evidence that the legal sum for the same office in the same town was different at different periods.

The following table of the sums set for the offices in African towns, although it covers fairly few towns, yet is of some value as a means of comparing their economic condition in the second century. The references are to *C. I. L.*, VIII unless otherwise stated. The amounts are in sesterces.

#### I Duovirate

Cuicul .....	4,000	<i>An. Ep.</i> , 1914, 237
Bulla Regia .....	5,000	<i>I. L. A.</i> , 451
Hippo Regius .....	10,000	<i>I. L. Alg.</i> , 10

#### II Aedileship

Althiburos .....	2,000 (probably)	27771
Thubursicum Numidarum ....	4,000	4874
Theveste .....	4,000	1842

<sup>7</sup> A valuable collection and tabulation of them has been made by A. Bourgarel-Musso ("Recherches économiques sur l'Afrique romaine," in *Revue africaine*, LXXV [1934], 354-414, 491-520).

Auzia .....	5,000	9024
Cirta .....	20,000	6944
Rusicade .....	20,000	7990
III Triumvirate		
Cirta .....	20,000	6944
IV Quinquennialitas		
Cirta .....	20,000	7095
Carthage .....	38,000	<i>I. L. A.</i> , 390
Hippo Regius .....	10,000	17408
V Decurionate		
Muzuc .....	1,600	12058
Thubursicum Numidarum ....	4,000	<i>I. L. Alg.</i> , 1236
Cirta .....	20,000	10867
Munchar ..... Either 400 or	2,200	25468
VI Flamonium perpetuum		
Vazi-Sarra .....	1,000	12006
Biniana .....	2,000	76
Verecunda .....	2,000	4187
Sigus .....	2,200	19122
Henchir-es-Schorr .....	2,000	11998
Zama .....	4,000	12018
Sutunurca .....	4,000	<i>I. L. A.</i> , 300
Numluli .....	4,000	26121
Medeli .....	2,000	885
Henchir-Sidi-Navi .....	6,000	23107
Thubursicum Numidarum ....	6,000	<i>I. L. Alg.</i> , 1236
Tupusuptu ..... less than	8,000	8835
Henchir-Bedd .....	6,000	14370
Capsa .....	10,000	98
Mustis .....	10,000	15576
Thuburbo Maius .....	10,000	12370
Diana .....	10,000	4588
Uchi Maius .....	12,000	26255
Lambaesis .....	12,000	2711
Rusicade .....	The legal sum cannot be given, but it was certainly less than the 82,000 recorded as promised.	
		7963
VII Pontificate		
Cirta .....	10,000	7079
VIII Augurate		
Rusicade .....	Probably 20,000	7990 (et HS
		<u>XXXIV</u> inib legit ob honor augurat, " and 34,000 sest., the legal sum being included therein."



Timgad .....	Probably something less than the odd sum of 21,200 which the inscription says was paid.	17837
IX praefectus IV coloniarum		
Cirta .....	20,000	6944
X Magister pagi		
Oued Scham .....	2,400	17257

The income of Cirta from this source may be estimated with some plausibility, since so many of the offices are mentioned in the above list. The three triumvirs at 20,000 sest. each would pay 60,000 sest. a year. Two aediles at 20,000 would pay 40,000 sest. The prefect would pay 20,000 sest. If, as a guess, seven men were added every year to keep up the numbers of the decurions, they would pay 140,000 sest. If, as a guess, the several priests together paid 100,000 sest., the annual income from the *summa legitima* would total 360,000 sest. Of course the city received additional gifts of money, buildings, statues, games, dinners, etc., as the inscriptions testify, and had other revenues, such as that from the public land, but its yearly income can hardly have been comparable to that of a modern city of the same size.

The regional distribution of the other inscriptions which give information on wealth of the towns makes it impossible to correlate them with the *summae legitimae* given above for the purpose of giving the comparative wealth of the towns, but certain localities are notable for the number and size of the gifts made by their citizens. The cities in which the most numerous and the richest gifts are recorded are Cirta, Rusicade, Theveste, and Thugga. The *summae legitimae* of the offices at Thugga are not known, but there is no African city in which so many gifts are recorded and none in which so many dedications to the emperor were made.

Another piece of detailed information is the amount of the gifts from period to period. The inscriptions which record gifts are practically all cast in the form of dedications to the reigning emperor. Their temporal distribution resembles closely the temporal distribution of the rest of the dedications. The following table of their amounts and distributions (copied from Bourgarel-Musso, *op. cit.*) makes the resemblance clear:

	Before 138	138-193	193-235	After 235
Less than 5,000 sest.	2	21	17	1
Less than 10,000 sest.	0	9	8	2
Less than 20,000 sest.	1	2	10	1
Less than 100,000 sest.	6	3	13	3
More than 100,000 sest.	1	1	5	2

Bourgarel-Musso deduces from the increase in the number of small dedications that there was an increase in the number of small fortunes. Another factor may have been that suggested above, that the group of those who wished to leave such memorials of themselves came to include those of more modest means, just as the group of municipalities in which dedications were made which do not mention sums of money continually widened to include smaller ones. The sharp drop in the number of small dedications after Alexander Severus, who died in 235, seems to substantiate other evidence that the governmental policy in the half century of military anarchy from 235 to 285 was ruinous to the urban middle class, depriving them of both will and power to give (see *infra*, ch. iii).

There is practically no information available on the size of individual fortunes. Apuleius mentions fortunes of one million, three million, and four million sesterces (*Apol.*, 23; 71-75; 77). The amounts expended for the *summa legitima* and for benefactions (see *infra*) can hardly be used to calculate the size of private fortunes. Gifts to municipalities apparently were often larger than the resources of the donors warranted, for under Marcus Aurelius the fortunes of the conductores were protected in the interest of the state by exempting them from municipal burdens and by empowering the procurators to restrain them if they wished to assume such burdens at the risk of their solvency (*Dig.*, L, 6, 10).

Thirdly, the inscriptions testify to the establishment of many funds bearing interest and to the rates of interest; the details of banking practice or the bankers are lost. The funds were usually to provide an annual celebration of some sort, such as a dinner for the decurions or the curiae, a day of games, prize-fights, or entertainments in the public bath (see e. g. *C. I. L.*, VIII, 1495; 12422; 26591). The amounts vary from 1,000 to 250,000 sesterces, averaging about 100,000. The interest rates vary, as might be expected, between 5% and 12% (*ibid.*,

9052, 6%; 12421, 6%; 1845, 12%; *I. L. A.*, 58, 5%). The largest fund, 1,300,000 sesterces, was established in 175 A. D. at Sicca Veneria by a native of the city who had been an imperial procurator (*C. I. L.*, VIII, 1641). This fund, which the donor expected to bear 5% interest, provided 2½ denarii a month for 300 boys of the city and 2 denarii for 300 girls, between the ages of 3 and 15.<sup>8</sup>

Prices of several articles are known, but it is impossible to compare the prices of the same article at different periods or in different localities.<sup>9</sup> No prices for wheat and oil are known, except that wheat sold at Thuburnica for 10 denarii the modius at some unknown time which may well have been within this period (*C. I. L.*, VIII, 25703-4). The statement of the price, "when it cost ten denarii," implies that the high cost was due to a temporary cause, such as famine, rather than to the devaluation of the currency.

The inscriptions record the prices of many statues, usually between 3,000 and 7,000 sesterces (see L. Friedländer, *Sittengeschichte Roms*, Appendix XXVII, for comparative prices).

Several prices are implied by the tariff inscription found at Zarái, a town some 40 km. south-southeast of Sitifis at the border of Numidia and Mauretania Caesariensis (*C. I. L.*, VIII, 4508). The inscription states that it was set up in 202 A. D. on the departure of the cohort stationed at Zarái. Why the departure of the cohort should have occasioned the posting of the inscription is not clear; perhaps the end of

<sup>8</sup> For the regulations concerning the funds of the associations of soldiers at Lambaesis see *C. I. L.*, VIII, 2553, 2554, 2557.

<sup>9</sup> The view that the inscriptions of the well-known lamps of Caesarea give the price—one *as*—will not be accepted here (Carton, "Les fabriques de lampes," *Bull. Soc. Oran.*, XXXVI [1916], 66-7; de Cardaillac, "Histoire de la lampe antique en Afrique," in *Bull. Soc. Oran.*, X [1890], 304-6). The lamps are inscribed (in capital letters running around the top): *ab assene lucernas venales* (*C. I. L.*, VIII, 22642, 1, a-h), or: *lucernas colatas de of[ic]ina asseni* (*ibid.*, 22642, 3, a-f), or: *emite lucernas colatas ab asse* (*ibid.*, 22642, 4, a-p). "Ab asse" has generally been taken to mean that the price was one *as*, although the expression does not have that meaning elsewhere, and "ab assene" of the first group emended to "ab ass[e]leme" by analogy with the "ab asse" of the third. It is more probably the name of the potter, Assenis, or Assene, as was conjectured in *C. I. L.*, VIII, *ad loc.* The name is not found elsewhere, but it explains the forms "assene" and "asseni" and obviates the violent emendation given above. The circular form of the inscriptions (see illustrations in de Cardaillac, *loc. cit.*) made abbreviations necessary, hence "asseni[s]" for the genitive and "asse" for any case form. The first of the above inscriptions would then mean "[Buy] the lamps sold by Assenis," the second "[Buy] fine lamps from the shop of Assenis," (cf. *ibid.*, 22642, 2 "lucernas colatas de officina Donati") the third "Buy fine lamps from Assenis."

the inscription, which unfortunately is missing, would have made clear what the new arrangement for the collection of the tariff was. One explanation is that the tariff had been collected by the *beneficiarius*, "aide," of the cohort and that upon the arrival of imperial officers to assume that function a special *lex portus*, "customs regulation," as the inscription calls itself, had been drawn up to make clear to all parties what the duties were (Rostovtzeff, *Geschichte der Staatspacht*, pp. 403-4; see pp. 401-2 on the discharge of this function by *beneficarii*). Substantially the same explanation is offered by Cagnat ("A New Roman Customs List," in *Journal of Roman Studies*, IV [1914], 143-6; this is chiefly a discussion of a fragment of a similar list which was found at Lambaesis). Perhaps it is sufficient to suppose that the newly arrived official thought it advisable to post a schedule of the rates in a prominent place.

The inscription states that beasts for the market are duty-free, "*pecora in nundinium immunia*"; this must apply only to animals brought for the market of Zarái. Zarái was of course just across the customs boundary; the animals on which a duty was exacted were obviously going farther. Cagnat's rate of 3/1000 on slaves (*Le Portorium chez les Romains*, p. 79) gives 500 denarii for a price, which agrees with the price given in *C. I. L.*, VIII, 23956 and *Dig.*, 5, 2, 8, 17. Cagnat's figure of 3/800 on animals is also used to calculate the prices of animals given below. It is possible that *tunica ternaria* means a garment costing 3 *aurei* (300 sest.), some fine specialty, in which case a duty of 1½ den. would represent the reasonable figure of 2%; the prices of other woven products below are therefore reckoned on the basis of a 2% duty. Edible products are reckoned on the basis of the usual 2½% duty. The following table gives the articles named in the inscription, the tariff exacted on each, and an estimate of the price:

Article	Tariff	Estimated price
Slave .....	1½ den.	500 den.
Horse, mare .....	1½ den.	400 den.
Mule, she-mule .....	1½ den.	400 den.
Ass, cow .....	½ den. (2 sest.)	133½ den.
Pig .....	HS 1 (1 sest.)	66⅔ den.
Suckling pig .....	2 asses (½ sest.)	33½ den.
Sheep, goat .....	HS 1	66⅔ den.

Article	Tariff	Estimated price
Kid, lamb .....	2 asses	33½ den.
Tablecloth .....	1½ den.	75 den.
Tunica ternaria .....	1½ den.	75 den.
Lodix (blanket or counterpane)	½ den.	25 den.
Purple cloak .....	1 den.	50 den.
Hide, dressed .....	½ den.	25 den.
Hide, with hair .....	2 asses	25 sesterces
Sheepskin, goatskin .....	2 asses	25 sesterces
Crude hides, 100 lbs. ....	½ den.	25 den.
Glue, 10 lbs. ....	2 asses	25 sesterces
Sponges, 10 lbs. ....	2 asses	25 sesterces
Wine, 1 amphora .....	HS 1	40 sesterces
Garum, 1 amphora .....	HS 1	40 sesterces
Dates, 100 lbs. ....	½ den.	80 sesterces
Figs, 100 lbs. ....	½ den.	80 sesterces

There is some uncertainty as to the nature of the portorium in Africa. A number of inscriptions mention the *IV publica Africae*, "the four revenues of Africa," but yield no information as to what the four revenues were. There are two possibilities, the first that the four revenues were a tariff and three others, the second that there were four tariff districts, the revenues from which were regarded as separate.

The first view was mentioned as a possibility by Mommsen (*C. I. L.*, VIII, p. xvii). The three other revenues could have been the revenue from the public land, that from the stipendiary land, and that from the poll-tax, all of which were instituted when the proconsular province was organized, and presumably were extended to the regions later acquired. The *scriptura*, "cattle tax," of Republican times, was specially managed during the Empire and need not be reckoned as one of the revenues (Rostovtzeff, *Geschichte der Staatspacht*, p. 410).

The second view is that of Rostovtzeff (*Staatspacht*, pp. 402-4). He suggests that the four tariff districts were Africa proconsularis, Numidia Vetus, Byzacena, and Tripolitania. He bases this explanation of the institution on the fact that there was a sixfold division of Sicily and an eightfold division of Illyricum for tariff purposes, and that the revenues were known as the *VI publica* and the *VIII publica*. One objection to this view is that it is not certain that *VI publica* was

an official term covering all the tariffs of Sicily, for although Cicero mentions that a certain company had gotten the contract for *sex publica*, that is, for collecting the tariffs at six harbors, he mentions two other harbors at which tariffs were presumably collected (Cicero, *Verr.*, 2, 3, 167; Scramuzza, *An Economic Survey of Ancient Rome*, III, 341). Another objection is that Illyricum consisted of provinces which were administrative units and had definite boundaries, whereas the boundaries of the four districts suggested for Africa were set in the time of Diocletian. Although inscriptions mentioning the *IV publica Africae* were found at certain places which may have been on the suggested tariff boundaries, yet other inscriptions have come to light at some distance from those boundaries (see Rostovtzeff, *op. cit.*, and E. Albertini in *Comptes rendus Acad.*, 1924, pp. 253-8). It is rather more probable, then, that the *IV publica Africae* were the four revenues mentioned above than the revenues from four tariff districts.

The official currency of Africa under the Empire was the standard Roman coinage, but a certain amount of bronze money coined in the province was in circulation (Cagnat, "Remarques sur les monnaies usitées dans l'Afrique," in *Klio*, IX [1909], 194-205; L. Müller, *Numismatique*, *passim*). Some of this bronze money apparently was issued by Augustus, to judge by the figures and legends; most of it was issued by municipalities during the late Republic and the reigns of Augustus and Tiberius. Practically every city on the coast from Hippo Diarrhytus down to Lepcis is represented by extant coins, as well as Tingi, Lixus, and Babba in Mauretania. The last three issued money as late as Nero; there are no extant coins of the others later than Tiberius.

It is interesting to note that there was a certain amount of Punic and Numidian bronze coinage in circulation during the Empire, as is shown by the fact that such coins have been found mixed with standard Roman coins by excavations at Lambaesis, Bulla Regia, and other places.

## VII. PROPERTY

The large estates, especially those belonging to the emperors, are the feature of property in Africa during this period which commands the most attention. The well-known inscriptions concerning the affairs of the group of imperial domains in the upper Bagradas Valley and a

great many smaller inscriptions which give evidence of the existence, location, and personnel of other imperial estates, as well as occasional references in the ancient authors, make it possible to form a fairly detailed conception of them.

As was said in the first chapter, there probably were many large estates in Africa at the end of the Republic. There is no evidence that Julius Caesar owned any, although it is possible. The first evidence of an emperor's owning land in Africa is Pliny's statement that a procurator of Augustus sent him an enormous head of wheat grown in Byzacium (*N. H.*, 18, 94-5). Also the vicarius of a vilicus of Augustus built a *teloneum* (perhaps "estate office") on an estate near Bisica at his own expense (*C. I. L.*, VIII, 12314). There is no evidence of how Augustus acquired his possessions in Africa, although inheritance is the most likely explanation (Frank, "'Dominium in Solo Provinciali' and 'Ager Publicus,'" in *Journ. Rom. Stud.*, XVII [1927], 155-160).

The repression of the wanderings of the nomads of southern Tunis during the reigns of Augustus and Tiberius made a considerable amount of land available (see *supra*). This land was probably declared *ager publicus* (Frank, *op. cit.*, 160). The Saltus Massipianus of *C. I. L.*, VIII, 587, an imperial estate (the inscription dates from Marcus Aurelius), was in this territory, as were the private estates of Lucius Africanus, called the Saltus Beguensis (*ibid.*, 11451, 23246; before 138 A. D.) and of Valeria Atticilla (*Comptes rendus Acad.*, 1923, p. 71; before 105 A. D.). It is reasonable to suppose that this *ager publicus* was offered to such natives as wished to pay a stipendium for it, but that most of it eventually was put on sale. The rise of large estates was natural, once peace was assured, for grazing and olive culture are the obvious methods of using this land, and both imply some capital to begin with and the use of fairly large areas. How the Saltus Massipianus came into the possession of the emperors is not known; the land presumably was made public when taken from the Musulamii.

Claudius had an estate at Calama (*C. I. L.*, VIII, 5384, 17500) but nothing more is known of the imperial estates during his reign.

Under Nero came the acquisition referred to with such tantalizing brevity by Pliny (*N. H.*, 18, 35): *sex domini semissem Africae possidebant cum interfecit eos Nero princeps*, "six owners were holding half of Africa when the emperor Nero killed them." Some, but prob-

ably not all, of the six had their estates in the group in the upper Bagradas Valley whence come the noted estate inscriptions. The Saltus Blandianus (see *infra*) was doubtless named for Rubellius Blandus, whose son Rubellius Plautus was executed at Nero's order (Tacitus, *Ann.*, 14, 57-9). The Saltus Domitianus probably was named for L. Domitius Ahenobarbus, proconsul in 12 B. C. (*C. I. L.*, VIII, 1180) and came to Nero, his grandson, either by legitimate inheritance or as part of the estate of his aunt Domitia Lepida, which he seized at her death (Suetonius, *Nero*, 34; on the identities of former owners and the location of the several estates see J. Carcopino, "L'inscription d'Aïn-el-Djemala," in *Mél. d'arch. et d'hist.*, XXVI [1906], 365-481). It may be that part of the offense of these six owners was the possession of prosperous estates in the region settled with Marius' veterans and therefore tax-free. The expression "half of Africa" must of course not be taken literally. Apparently Vespasian organized a central bureau at Carthage for the management of the estates and of other imperial affairs; this subject will be discussed in detail later.

At the end of the first century and the beginning of the second a number of imperial estates were acquired in western Numidia, especially in the region just north of the Aurès Mountains (Broughton, *Romanization*, pp. 139-40). These estates seem to have been developed on land which had previously been the general possession of the native tribes and which the Romans had made available for agriculture by irrigation with the water from the mountains. The marking off of a considerable amount of land near Equizetum in Mauretania by the procurator of Hadrian and the assignment of a reservation to the tribe of the Numidae at the same time gives an idea of the process by which imperial estates were acquired in this part of the country (*C. I. L.*, VIII, 8810-12).

There probably was a steady growth in the number of imperial estates at the expense of individuals all through this period, although there is little definite evidence to be adduced. Probably some estates were willed to the emperors. There can be no doubt that the struggles of Septimius Severus (and probably of Domitian) with the Senate resulted in the confiscation of the African estates of some senators, for Severus even had a procurator ad bona cogenda per Africam (Dessau, *Inscriptiones Latinae Selectae*, 1421; the inscription is ascribed to the reign of Commodus by Dessau, but the man who erected the inscrip-



tion was holding what seems to be a Severan office; see also *C. I. L.*, VIII, 9360, an *a cognitionibus* of Severus who was praeses Mauretaniae, which probably implies that he was to supervise in Mauretania the confiscations usually entrusted by Severus to the *a cognitionibus*). By the end of the period under discussion there were doubtless imperial properties in every part of Africa. There is a temptation to assume that they covered a very considerable part of the total area of the country, but evidence on the size of individual estates that might justify an estimate of the proportion is lacking.

For the administration of the imperial estates there was a hierarchy of imperial procurators with many underlings.<sup>10</sup> It is plain that *tractus* was the term used for the largest administrative unit, *regio* for the next largest, and *saltus* for the single estate, but the evidence available does not make it possible to map the country by *tractus*, *regiones*, and *saltus*. The organization seems first to have been completed for the estates of Tunis belonging to the *tractus Carthaginiensis*, and the administration of the others varied from period to period as the imperial possessions increased, now here, now there.

The following digest of the evidence on the administrative units will also serve to indicate the general distribution of the estates. The *tractus Carthaginiensis* had its office at Carthage (*C. I. L.*, VIII, 10570, II, 10-11; reign of Commodus; the office was established under the Flavians, see *infra*). There is evidence for the existence of the following *regiones* within this *tractus*: of Vaga (*ibid.*, 12883; reign of Pius or later), of Thisiduo (*ibid.*, 13188; reign of Pius or later), of Thugga (*ibid.*, 12892; reign of Pius or later), of Assuras (*ibid.*, 12879), of Thuburbo Maius (*I. L. A.*, 246), and one of which the first four or five letters are missing, the end of the word being -tana. "Uchitana" has been conjectured (*C. I. L.*, VIII, 12880; reign of Trajan or later), but it may well be that Uchi Maius was within the *regio Thuggensis*, for a broken inscription reported in *Bull. com.*, 1928-29, pp. 688-93, has the name of Patroclus, a name known as the procurator of the inscription of Aïn-el-Wassel (see *infra*). If that Patroclus was also procurator over this new domain, which is 15 km. southeast, at Aïn-Teki, he probably was procurator of the whole *regio*

<sup>10</sup> See Schulten, *Die römische Grundherrschaften*, pp. 62-92; Broughton, *Romanization*, pp. 163-166; Hirschfeld, *Die kaiserliche Verwaltungsbeamten*, pp. 124-137.

Thuggensis, which was therefore rather extensive and probably included Uchi Maius.

The other divisions cannot be as neatly described as the tractus Carthaginiensis, which probably was by far the most important. Whether the division of Hadrumetum was a tractus is not clear, for it was never called tractus. The terms regio (*C. I. L.*, VIII, 11174, 7039, 23068), dioecesis (*ibid.*, 7039, 11341 = 23219), and provincia (Dessau, *I. L. S.*, 1441) are known to have been applied to it. The estates of the division of Theveste were at some time administered with those of Hadrumetum (*C. I. L.*, VIII, 7039), and are also connected with those of Hippo in *I. L. Alg.*, 285 and 3992 (probably under Hadrian), where the surprising expression procurator saltuum (saltus in 3992) Hipponiensis and Thevestini is used. The term tractus Thevestinus is used in *C. I. L.*, VIII, 7053 (209-11 A. D.), a dedication to a procurator of the emperors "per Numidiam" who was also acting as procurator of the tractus Thevestinus. Apparently the tractus was not very important even at this time when it had independent standing. Dessau conjectured (*I. L. S.*, 9018; *C. I. L.*, VIII, 26582) that there were many scattered estates in Numidia, since there was a *fisci advocatus* at (*sc. ad*) *fusa per Numidiam*. *C. I. L.*, VIII, 2757 implies a regio Thamugadensis. *I. L. Alg.*, 3062 is a dedication to a procurator patrimoni per regionem Leptiminensis and procurator rationis privatae per reg. Tripolitanam. The second of these two divisions may have consisted largely of the property of Septimius Severus. From Mauretania Caesariensis there is record of procurators *rationis privatae* of Severus (*C. I. L.*, III, 1456, VIII, 8812). The second of these inscriptions records the assignment of land from the *defensio Matidiae* to the *coloni Kasturrenses* by the procurator. Apparently the family property of the Antonines was regarded as *res privata* by Severus, just as he claimed a family relationship to them.

The epitaphs from the cemetery of the officials at Carthage (*ibid.*, 12590-13214) give considerable information about the humbler personnel of the organization. Some were freedmen, some slaves. The offices were tabularius, ex tabulariis, custos tabulari, adiutor tabulari, adiutor a commentariis, adiutor ad instrumenta commentariorum, dispensator, librarius, notarius, cursor, agrimensor, chorographus, pedisequus, ustarius. One part of the cemetery seems to belong to the closing decades of the first century of our era and the opening decades of the

second; the other apparently belongs to the reigns of Hadrian, Pius and Aurelius (*ibid.*, pp. 1335-38).

The best known of the imperial estates in Africa are those near the middle Bagradas Valley just beyond the *fossa regia* which defined the western boundary of the original province, Africa Proconsularis. All four of the large inscriptions which spring to mind when the imperial estates are mentioned and which will be discussed in detail below come from this group of estates. It must be remembered, however, that much of the information gained from those inscriptions probably has no application to the other estates scattered all over Africa. The principles laid down in the inscriptions are designed to meet certain problems which may well have been peculiar to these estates, for this land obviously was not like the land of all other estates, and the region had an unusual history, as will be shown. The assertions made in the following discussion, therefore, must be taken as applying only to these estates.

The estates in other parts of Africa were administered by the imperial bureaucracy which administered this group of estates, but they probably differed in their products. The other estates in northern Tunis probably had much the same range of products as this group, but those in other regions naturally produced the characteristic products of those regions. The northern part of the Saltus Massipianus, for instance, seems to have produced olives, while the barren southern part may have been devoted to cattle-raising. Those in the region north of Lambaesis produced olives.

The unusual history of the region about to be discussed probably goes back to the time of Marius. As was said in the first chapter, several thousand veterans of the campaigns of Marius were settled here after the defeat of the Cimbri. They were organized into pagi and their allotments covered an area of some 25 x 30 Roman miles just outside the provincial boundary in the Bagradas Valley. It may be assumed that many of these former members of the urban proletariat were unsuited to such a life and that many of the allotments were combined by better managers who were able to take advantage of the situation. Possibly some of the original settlers lost their land as a result of joining the Marian forces which in 82 were crushed by Pompey in his short campaign in Africa. This would almost inevitably result in the buying of large tracts of the land by investors. There may have

been a second large shift in ownership of land in this region when Pompeian adherents were punished by Caesar in 46 B. C. Some of Pliny's "six owners who held half of Africa" and were killed by Nero had their estates here. The origin of these estates and of the principles on which they were administered and managed, then, was not an administrative act, but a long historical process conditioned by the country and the times. It will be found that the inscriptions which follow can be simply explained on that basis (see the detailed exposition of this view by Frank, "The Inscriptions of the Imperial Domains of Africa," in *Am. Journ. Phil.*, XLVII [1926], 55-73, and "A Commentary on the Inscription from Henchir Mettich in Africa," *ibid.*, 153-170. Rostovtzeff, *Studien zur Geschichte des römischen Kolonates*, pp. 313-402 represents the view that the study of the imperial estates can be furthered most by the study of practices in the oriental part of the Empire).

The following texts are given in the versions of P. F. Girard, *Textes de droit romain*, fifth edition. The critical apparatus will be found in *C. I. L.*, VIII. The translation is based on that of J. J. Van Nostrand, *The Imperial Domains of Africa Proconsularis* (*Univ. of California Publications in History*, vol. XIV), which contains text, translation, commentary, and bibliography.

I *C. I. L.*, VIII, 25902, often referred to as "the inscription of Henchir-Mettich"; Girard, pp. 875-9.

- I Pro salutē | Aug(usti) n(ostri) imp(eratoris) Caes(aris) Tra-  
jani princ(ipis) | totisque domus divine | optimi Germanici  
Parthici. Data a Licinio | Maximo et Feliciorē Aug(usti)  
5 lib(erto) proc(uratoribus) ad exemplum || legis Mancianae.  
Qui eorum intra fundo villae Mag | ne Variani id est Map-  
palia Siga sunt, eis eos agros qui su | bcesiva sunt excolere  
permittitur lege Manciana | ita ut eas qui excoluerit usum  
propriū habe | at. Ex fructibus que eo loco nati erunt  
10 dominis aut || conductoribus vilicisve ejus f(undi) partes e  
lege Ma | nciana prestare debebunt hac condecione: coloni |  
fructus cujusque culture, quos ad aream deportare | et terere  
debebunt, summas deferant arbitrato | suo conductoribus vili-  
15 cisve ejus f(undi); et si conducto || res vilici[s]ve ejus  
f(undi) in assem partes col(on)icas datur | as renuntiaverint

- tabellis obsignatis sine f(raude) s(ua) cavea | nt ejus fructus  
partes quas prestare debent, | conductores vilici[s]ve ejus  
f(undi) coloni colonic | as partes prestare debeant. Qui in  
20 f(undo) villae Mag || nae sive Mappalia Siga villas habent  
habebunt | dominicas dominis ejus f(undi) aut conductoribus  
vilicisve | eorum in assem partes fructuum et vinearum ex |  
consuetudine Manciane, cujusque gene | ris habet, prestare  
25 debebunt: tritici ex a || ream partem tertiam, hordei ex  
aream | partem tertiam, fabae ex aream partem qu | artam,  
vinu de laco partem tertiam, ol | ei coacti partem tertiam,  
mellis in alve | is mellaris sextarios singulos. Qui supra  
II quinque alveos | habebit in tempore quo vin | demia mellaria  
5 fuit fuerit | dominis aut conductoribus vili || cisve ejus  
f(undi) qui in assem partem . . . | d(are) d(ebebit). Si  
quis alveos, examina, apes, vasa | mellaria ex f(undo) villae  
Magne sive M | appalie Sige in octonarium agrum | transtu-  
10 lerit, quo fraus aut dominis aut || conductoribus vilicisve eis  
quam fiat, alv | ei[s], examina, apes, vasa mellaria, mel qui  
in eo f(undo) | erunt conductorum vilicorumve in assem ejus |  
f(undi) erunt. Ficus aride arborum earum quae que extra  
15 poma | rio erunt, qua pomarium intra villam ipsam || sit, ut  
non amplius justa vindemia fiat, colon | us arbitrio suo coac-  
torum fructuum conducto | ri vilicisve ejus f(undi) partem  
tantam d(are) d(ebebit). Ficeta vete | ra et oliveta que ante  
hanc legem sata sunt ex consuetu | dine[m] fructum conduc-  
20 tori vilicisve ejus prestare || debeant. Si quod ficetum postea  
factum erit, ejus ficeti | fruct[uct]um per continuas ficationes  
quinque | arbitrio suo ei qui severit percipere permittitur, |  
post quintam ficationem eadem lege[m] qua s(upra) s(crip-  
tum) est | conductoribus vilicisve ejus f(undi) p(artes)  
25 d(ebebit). Vineas serere || colere loco veterum permittitur  
ea condicione ut | ex ea satione proxumis vindemiis quinque  
fructum | earum vinearum is qui ita fuerit suo arbitrio per |  
cipiat itemque post quinta(m) vindemia(m) quam ita satae |  
30 erint, fructus partes tertias e lege Manciana conduc || toribus  
III vilicisve ejus in assem dare debe | bit. Olivetum serere  
colere in | eo loco qua quis incultum excolu | erit permittitur  
5 ea condici[ci]one u || t ex ea satione ejus fructus oliveti, q |

- uid ita satum est, per olivationes pro | ximas decem arbitrio  
suo permittit | re debeat, item post olivationes olei coacti par-  
tem tertiam conducto || ribus vilicisve ejus f(undi) d(are)  
10 d(ebebit). Qui inseruer | it oleastra post annos quinque par |  
tem tertiam d(are) d(ebebit). Qui agri herbis consiti in  
f(undo) | ville Magne Variani sive Mappalie | Sige sunt  
15 eruntve extra eos agros qui || vicias habent, eorum agrorum  
fruct | uis conductoribus vilicisve ejus d(are) d(ebeunt);  
custodes e | xigere debebunt. Pro pecora que intra f(undum)  
ville M | agne sive Mappalie Sige pascentur, in pecora sin |  
20 gula aera quattuor conductoribus vilicisve do || minorum ejus  
f(undi) prestare debebunt. Si quis ex f(undo) ville | Magne  
sive Mappalie Sige fructus stantem pen | dentem maturum  
immaturum caeciderit excider | it exportaverit deportaverit  
conbuserit desiquer | it seq... detrimentum conductoribus  
vilicisve ejus f(undi) coloni erit ei qui de... | tantum  
IV prestare d(ebebit). Si qui in f(undo) ville Mag | ne siv(e)  
Mappalie Sige arbores frugiferas se | verunt severint, iis ejus  
5 superficiei usum post . . . annos liberis || qui e legitimo mat-  
rimonio procreati sunt | testamento relinquere licet . . . sup |  
erficies . . . hoc tempus lege Manciana . . . | ritu . . . fidu-  
cieve data sunt dabuntur . . . | ... ve jus fiducie lege Man-  
10 ciana servabitur . . . Qui || superficiem ex inculto excoluit  
excoluerit ibique | . . . aedificium deposuit posuerit isve qui  
coluit colere | desierit perdesierit, eo tempore quo ita ea super-  
ficies | coli desit desierit, ea quo fuit fuerit jus colendi, dum-  
15 taxa | d biennio proximo ex qua die colere desierit servatur ||  
servabitur; post biennium conductores vilici[s]ve eorum . . .  
| Ea superficies que proximo anno culta fuit et coli desi | erit,  
conductor vilicusve ejus f(undi) et cujus ea superficies esse  
dicit | ur denuntiet superficiem cultam . . . | denuntiationem  
20 denuntiatur . . . esse gratis testand || o itemque insequentem  
annum persistat ea sine quere | la, ejus f(undi) post biennium  
conductor vilicusve colere de | beto. Ne quis conductor vili-  
cusve eorum inquilinum ejus | f(undi) plus quam . . . pre-  
stare cogat. Coloni qui intra f(undum) ville Magne sive  
Mappalie Sige habit | abunt dominis aut conductoribus vili-  
25 cisve eorum in assem qu || odannis in hominibus singulis in

arationes ope | ras n(umero) II et in messem operas n . . . et  
 in sarritiones cujusque generis | singulas operas binas prestare  
 debebunt. Coloni | inquilini ejus f(undi) intra . . . anni  
 n | omina sua conductoribus vilicisve ejus f(undi) edere et  
 30 operas in custo || dias singulas quas agris prestare debent  
 . . . nent | ratam seorsum . . . um. | Stipendiariorum qui in  
 f(undo) ville Magne sive Mappa | lie Sige habitabunt . . .  
 operas suas c | onductoribus vilicisve ejus f(undi) prestare  
 35 debeant cust || odias f(undi) servis dominicis . . . nit est |.

(The following five lines are almost entirely illegible.)

Hec lex scripta a Lurio Victore Odilonis, magistro, et Flavio  
 Gem | inio defensore, Felice Annobalis Birzilia.

*Translation of C. I. L., VIII, 25902, "the inscription of  
 Henchir-Mettich"*

For the safety of our Augustus Imperator Caesar Traianus Princeps optimus Germanicus Parthicus and of all the sacred family.

Published by Licinius Maximus and Felicior, freedmen of Augustus, procurators, on the basis of the Lex Manciana.

Permission is given to those who live on the estate of Villa Magna Variana, that is, of Mappalia Siga, to bring under cultivation those fields which are unsurveyed on the terms of the Lex Manciana, namely that he who brings the land under cultivation have provisional title. Of the crops which shall be raised on said land the cultivators shall give to the owners, lessors, or stewards of this estate the shares fixed by the Lex Manciana in the following manner: the coloni shall report to the lessors or stewards of this estate their own estimate of the total yield of every kind of crop which they must bring to the threshing floor and thresh, and if the lessors or stewards answer that they will give the coloni their renter's share in full, the coloni shall truthfully pledge in writing under seal the amount they are to give, and the lessors or stewards shall be obliged to give the coloni their renters' share.

Those coloni who possess or shall possess domain farmsteads of the estate of Villa Magna Variana or Mappalia Siga shall give to the owners or lessors or stewards of this estate the exact shares of produce and wine, as set forth in the Lex Manciana, of every kind it lists: one third of the wheat from the threshing floor, one third of the barley from the threshing floor, one fourth of the beans from the threshing floor, one third of the wine from the vat, one third of the oil from the press, one sextarius of honey from each hive. Anyone who has more than five hives when the honey has been or shall be gathered shall give the owners, lessors, or stewards of this estate exactly what he gathers. If anyone shall have transferred hives, swarms, bees, or honey-jars from the estate of Villa Magna Variana, that is, Mappalia Siga, to land outside the estate, with intent to defraud in any way the masters or lessors or stewards, the hives, swarms, bees, honey-jars and the honey in them shall all belong to the lessors or stewards of the estate.

In the case of fig trees that stand outside the orchard of the estate, if the grove be on the estate and the colonus does not harvest more than four modii (?) of fruit

from it, he shall give the lessor or steward of this estate the regular share of the picked fruit at his own estimate.

The old fig and olive groves which were planted before this regulation [was published] shall furnish to the lessor or stewards of this fundus their customary share.

If any fig grove shall have been planted after this time, he who shall have planted it shall be allowed to dispose of the fruit of that fig grove at his own pleasure for five consecutive harvests, but after the fifth harvest he shall furnish to the lessors or stewards of this fundus the amount fixed by the Lex [Manciana], as written above.

Permission is given to plant and cultivate new vines in place of old on the following condition: he who shall have planted them shall dispose at his own pleasure of the fruit of these vines from that planting for the next five harvests, but after the fifth harvest from vines thus planted they shall give to the lessors or stewards of this fundus the third part of the crop in accordance with the Lex Manciana.

Permission is given to plant and to cultivate an olive grove where someone has brought uncultivated land under cultivation on the following condition: that for ten consecutive harvests after the planting [the cultivator] shall dispose at his pleasure of the crop of the grove thus planted, but after the tenth crop, he shall give a third part of the pressed oil to the lessors or stewards of this fundus.

Those who shall graft wild olives shall furnish a third part after the fifth harvest.

As to the fields which are or shall be left to grass, excepting those fields which have vetches, in the estate of Villa Magna Variana, the crops of these fields shall belong to the lessors or steward. The overseers shall take in this crop.

As to the sheep which are pastured within the estate of Villa Magna, that is, Mappalia Siga, the owners shall pay for each four asses to the lessors or stewards of the masters of this estate.

If any one shall cut down, destroy, carry away, carry off, burn or cut off a crop of the estate of Villa Magna, that is, Mappalia Siga, whether it be standing or hanging, ripe or unripe, the loss to the lessors or stewards of this fundus shall fall on the colonus; he shall pay its value.

[IV, 1-10, which is badly mutilated, probably assures the right of bequeathing, mortgaging, and pledging the unsurveyed land to which provisional title was acquired by bringing it under cultivation.]

If anyone has brought or shall bring under cultivation land hitherto uncultivated, [even if he ?] has built or shall build a dwelling thereon—or if anyone who has cultivated shall have ceased, or shall cease cultivating the right of cultivation which belonged or shall belong to the cultivator is and shall be preserved for the two years succeeding the day on which he ceased cultivation. After the second year the lessors or stewards of these plots shall cultivate them. As to that piece of land which has been cultivated in the previous year, but has ceased being cultivated, the lessor or steward of that fundus shall report to the men whose property this land is said to be that the land must be cultivated. If, after this report, the man continues to delay, and likewise in the following year he persists, after the second year the lessor or steward of this fundus shall cultivate the land with no right of redress (to the former cultivator).

Let no lessor or steward of these . . . an inquilinus of this fundus . . .

The coloni who shall dwell within the fundus, Villa Magna, or Mappalia Siga, shall furnish to the owners or lessors or stewards exactly per year, per man, two days' work at the plow, two days' work at the harvest, and at cultivating one days' work of each kind (that is), two days' work total.

The coloni inquilini of this fundus shall within [some portion of] a year give their



names to the lessors or stewards of this fundus, and [arrange for] the guard duty which each [shall furnish in the fields . . .]

This law was written by Lurius Victor the magister son of Odilo, and by Flavius Geminus, defender; by Felix, son of Annobal, son of Birzil.

II *C. I. L.*, VIII, 25943, often referred to as "the inscription of Aïn-el-Djemala"; Girard, pp. 879-881.

- I . . . . . tuant, rogamus, procurato  
| res per providentiam vestram, quam | nomine Caesaris prae-  
5 statis, velitis nobis | et utilitati illius consulere, dare no[s]||  
bis eos agros qui sunt in paludibus et | in silvestribus insti-  
tuendos olivetis | et vineis lege Manciana condicione | saltus  
Neroniani vicini nobis cum | ederemus hanc petitionem nos-  
10 tram || fundum suprascriptum Neronianum | incrementum  
II habit . . . (about eight lines missing) jubeas. Sermo pro-  
curatorum im | p(eratoris) Caes(aris) Hadriani Aug(usti).  
Quia Caesar n(oster) pro | infatigabili cura sua, per quam  
5 adsi | due pro humanis utilitatibus excubat, om || nes partes  
agrorum, quae tam oleis aut | vineis quam frumentis aptae  
sunt ex | coli jubet, itcirco permissu[m] provid | entiae ejus  
potestas fit omnibus etia | m cas partes occupandi quae in  
10 cent || uris elocatis saltus Blandiani et U | densis et in illis  
partibus sunt quae ex | saltu Lamiano et Domitiano junctae  
Tuzritano sunt nec a conductoribus exercentur isque qui occu-  
paverint possidendi ac fruendi heredique suo relinquendi id  
jus datur quod est lege Hadriana comprehensum de rudibus  
agris et iis qui per X annos continuos inculti sunt. Nec ex  
Blandiano et Udensi saltu majores partes fructuum . . . ua  
III . . . ob . . . mm . . . | . . . qui ea loca neglecta a condu |  
ctoribus occupaverit, quae da | ri solent tertias partes fruc-  
5 tuum || dabit. De eis quoq(ue) | regionibus quae ex Lamiano  
et Domitiano | saltu junctae Tuzritano sunt | tantumdem da-  
bit. De oleis quas quisque in | scrobibus posuerit aut oleastr  
10 || is inseruerit, captorum fructuum | nulla pars decem proximi-  
mis annis exigeretur, sed nec de pomis septem annis proximis.  
Nec alia poma in divisione umquam cadent quam quae veni-  
bunt a possessoribus. Quas partes aridas fructuum quisque  
debebit dare, eas proximo quinquennio ei dabit in cujus  
conductione agrum occupaverit, post it tempus rationi . . .  
. . . . .

IV Earinus et Doryphorus Primigenio | suo salutem Exemplum  
 epistulae scrip | tae nobis a Tutili Pudente egregio viro | ut  
 5 notum haberes et it quod subjectum est || celeberrimis locis  
 propone. Verridius | Bassus et Januarius Martiali suo salu-  
 tem. | Si qui agri cessant et rudes sunt si qui sil | vestres aut  
 palustres in eo saltuum trac | tu, volentes lege Manciana . . .

Parts II and III of this text have been supplied from the following inscription.

*Translation of C. I. L., VIII, 25943, "the inscription of  
 Aïn-el-Djemala"*

. . . we ask, procurators, that through the foresight which you exercise in the name of Caesar, you agree to consider our advantage and his, [and] grant us those fields which are swampy and wooded, that we may plant them to olive groves and vines in accordance with the Lex Manciana, on the terms applying to the neighboring saltus Neronianus. [The three broken lines which follow cannot be translated satisfactorily.]

. . . Commentary of the procurators of the Emperor Caesar Hadrianus Augustus. Since our Caesar in the untiring zeal with which he constantly guards human needs has ordered all parts of the land which are suitable for olives or vines, as well as for grain, to be cultivated, therefore by the grace of his foresight the right is given to all to enter upon even those parts of said land which are included in the surveyed units of the saltus Blandianus and of Udensis, together with those sections of the saltus Lamianus and Domitianus, which border upon the saltus Tuzritanus, and which are not exploited by the lessors; and to those who shall have entered upon said fields the right is given of possessing and of enjoying the produce, and of leaving the same to an heir, a right which is derived from both the Lex Hadriana concerning virgin soil, and [the Lex Hadriana] concerning fields which have remained untilled for ten consecutive years; nor [shall there be] from the saltus Blandianus and Udensis greater shares of produce . . .

. . . If anyone shall have occupied fields uncultivated by the lessors, he shall give the third part of the crops which are usually given [to the lessors]. In like manner, from those sections of the saltus Lamianus and the saltus Domitianus which border upon [the saltus] Tuzritanus he shall give the same amount. As to olive trees which anyone shall have set out, or shall have grafted onto wild olive trees, no part of the yield shall be required for the next ten years; nor of fruits for the next seven years; nor shall any fruit be subject to division other than that which shall be sold by the possessors. Whatever share of the dried fruit anyone should give, he shall give, for the next five years, to him under whose lease he shall have occupied the ground; after that time to the Treasury.

Earinus and Doryphorus to their Primigenius, greeting. A copy of the letter written by Tutilius Pudens, egregius vir, that you may become familiar with it. Publish what follows in the most frequented places.

Verridius Bassus and Januarius to their Martialis, greeting. If any fields lie fallow and are untilled, if any wooded plots or swamps [exist] in this district of saltus, [do not hinder from cultivating the same] those who desire [to do so] in accordance with the Lex Manciana . . .

III *C. I. L.*, VIII, 26416, often referred to as "the inscription of Aïn-Wassel"; Girard, pp. 881-3.

Pro salute imp(eratoris) Caes(aris) L. Septimi | Severi Pii  
Pertinacis Aug(usti) et | imp(eratoris) Caes(aris) M. Aureli  
Pii Aug(usti) et L. Septimi Severi Getae | Caes(aris) et  
Juliae Domnae Aug(ustae) (matr(is)) | castrorum aram legis  
divi Ha | driani Patroclus Auggg. lib(ertus) || proc(urator)  
instituit et legem infra | scriptam intulit. |

Exemplum legis Hadrianae | in ara proposita: .

Sermo procu | ratorum :

The remainder of the text of this inscription is given under the inscription of Aïn-el-Djemala, II, 2 ff.

For the safety and security of Emperor Lucius Septimius Severus Pertinax Augustus and of Emperor Caesar Marcus Aurelius Antoninus Augustus and of Lucius Septimius Severus Geta Caesar, and of Julia Domna Augusta, mother of the camps, Patroclus, freedman of the three Augusti, procurator, erected this altar of the Law of the divine Hadrian and placed upon it the regulation as written below.

A copy of the *Lex Hadriana* published on the altar.

The commentary of the procurators. . . .

IV *C. I. L.*, VIII, 10570, often referred to as "the inscription of Souk-el-Khmis"; Girard, pp. 199-201.

. . . Procuratoris tui intellegis praevaricationem quam non modo cum Allio Maximo adversario nostro, set cum omnibus fere conductorib(us) contra fas atq(ue) in perniciem rationum tuarum sine modo exercuit, ut non solum cognoscere per tot retro annos instantibus ac suplicantibus vestramq(ue) divinam subscriptionem adlegantibus nobis supersederit, verum etiam hoc ejusdem Alli Maximi conductoris artibus gratiosissimi animo indulserit, ut missis militib(us) in eundem saltum Burunitanum alios nostrum adprehendi et vexari, alios vinciri, nonnullos cives etiam Romanos virgis et fustibus effligi jusserit, scilicet, eo solo merito nostro, quod, euntes in tam gravi pro modulo mediocritatis nostrae tamq(ue) manifesta injuria imploratum majestatem tuam, immodesta epistula usi fuissetus. Cujus nostrae injuriae evidentia, Caes(ar), inde profecto potest aestimari quod . . . quidem, quem majesta . . . existimamus vel pro . . . t omnico cognos . . . plane gratificati . . . mum invenerit . . . nostris, quibus . . . bamus cogni . . . beret inte . . . tare operas . . . ret ita tot pe . . . ieri . . .

(Lacuna.)

. . . Idque compulit nos miserrimos homines jam rursum divinae providentiae tuae supplicare. Et ideo rogamus, sacratissime imp(erator), subvenias. Ut kapite legis Hadriane, quod supra scriptum est, ademptum est, ademptum sit jus etiam proc(uratoribus), nedum conductori, adversus colonos ampliandi partes agrarias aut operar(um) praebitionem jugorumve: et ut se habent littere proc(uratorum), quae sunt in tabulario tuo tractus Karthag(iniensis), non amplius annuas quam binas aratorias, binas sartorias, binas messorias operas debeamus itq(ue) sine ulla controversia sit, utpote cum in aere inciso et ab omnib(us) omnino undiq(ue) versum vicinis nostris lecto legis capite ita sit perpetua in hodiernum forma praestitutum et proc(uratorum) litteris, quas supra scripsimus, ita confirmatum. Subvenias, et cum homines rustici tenues manuumstrarum operis victum tolerantibus conductori profusis largitionib(us) gratiosissimo impares aput proc(uratores) tuos simus, quib(us) per vices succession(is) per conditionem conductionis notus est, miserearis ac sacro rescripto tuo non amplius praestare nos, quam ex lege Hadriana et ex litteras proc(uratorum) tuor(um) debemus, id est ter binas operas, praecipere digneris, ut beneficio majestatis tuae rustici tui vernulae et alumni saltuum tuorum n(on) ultr(a) a conductorib(us) agror(um) fiscalium inquietemur.

(Lacuna.)

Imp. Caes. M. Aurelius Commodus Antoninus Aug(ustus) Sarmat(icus) Germanicus maximus Lurio Lucullo et nomine aliorum. Proc(uratores) contemplatione disciplinae et instituti mei [ne plus quam ter binas operas] curabunt, ne quit per injuriam contra perpetuam formam a vobis exigatur. Et alia manu: Scripsi, Recognovi.

Exemplum epistulae proc(uratoris) e(gregii) v(iri). Tussanius Aristo et Chrysanthus Andronico suo salutem. Secundum sacram subscriptionem domini n(ostri) sanctissimi imp(eratoris), quam ad libellum suum datam Lurius Lucullus accepit. . . .

(Six lines missing.)

Et alia manu: Optamus te felicissimum bene vivere. Vale. Dat(a) pridie idus Sept. Karthagine.

Feliciter consummata et dedicata idibus Mais Aureliano et Corneliano cos., cura agente C. Julio Pelope Salaputi mag(istro).

*Translation of C. I. L., VIII, 10570, "the inscription of  
Souk-el-Khmis"*

(. . . that you may be informed of the collusion of your procurator) collusion which he has practiced not only with Allius Maximus, our oppressor, but also with almost all the lessors, against the law, to the detriment of your treasury, and without limit. The result is that he has refrained from investigating, for many years, our petitions and supplications and our appeals to your divine rescript. More than that, he has yielded to the wiles of the said Allius Maximus, lessor, who is very high in his favor, to such an extent that he has sent soldiers into the said saltus Burunitanus and given orders that some of us be seized and tortured, others be fettered and others, although they are Roman citizens, be beaten with rods and cudgels. The sole alleged reason for this treatment was that we had written a frank letter, beseeching your majesty [for aid] since we found ourselves in danger so great in proportion to our weakness and so immediate. The proof of our danger, Caesar, may be determined from this . . .

. . . and this forces us unhappy men to seek your divine aid. We ask, therefore, most sacred Emperor, that you succor us; that the right which, in accordance with the clause of the Lex Hadriana, as it has been written above, has been limited, continue to be limited with reference to procurators and especially to the lessor, namely, the right of increasing the shares [for rent in kind], or the tasks [for rent in manual labor], or the teams [for the latter service]; that the conditions remain as in the commentaries of procurators, which are deposited in your archive of the tractus Karthaginiensis; that we owe not more than two days' work per year of plowing, two of cultivating, two of harvesting; and that there may be no dispute: inasmuch as this has been established in the forma perpetua inscribed upon bronze and has been recognized by all our neighbors on every side, and has been confirmed by the commentaries of the procurators, that is, six days' work [per year]. So that through the kindness of your majesty we, your rural workers, born and raised on your estates, may no longer be harassed by the lessors of the imperial estates. . . .

The Emperor Caesar Marcus Aurelius Commodus Antoninus Augustus Sarmaticus Germanicus Maximus to Lurius Lucullus and others whom it may concern. In view of the law and of my decision, procurators shall not demand more than thrice two days' work [per year] lest any unjust exaction be made by you, in violation of the forma perpetua.

Then in another hand: I have written. I have certified [to the signature].

A copy of the comment of the procurator; Tussanius Aristo, vir egregius, and Chrysanthus to their Andronicus, greeting. According to the sacred rescript of our most sacred emperor, the rescript which Lurius Lucullus sent to us in reply to the petition [of the coloni]. . . .

And in another hand: We wish you every happiness possible. Farewell. Written on the day before the Ides of September, at Carthage.

Happily completed and dedicated on the Ides of May in the consulship of Aurelianus and Cornelianus, under the supervision of Caius Iulius Pelops Salaputis, magistrate.

*Commentary on the Inscriptions*

The inscriptions will be referred to by their numbers without the preliminary "C. I. L., VIII."

25902 ("the inscription of Henchir-Mettich"), I, 1-4. The inscription was cut on an altar dedicated to the emperor; the date is 116-117 A. D.

I, 5. The inscription records an ordinance issued by the procurator of the emperor, apparently the procurator of the tractus Karthaginienensis. The tenants were therefore under the direct control of the emperor and not under the control of a municipality. This is most easily explained as the result of the fact that there was no municipal government of the regular kind in this region when the large estates began to grow up. The Marian settlers had been organized by pagi, the common business of which must have been very simple and would largely be superseded by the management of an owner whose estate included most of a pagus or parts of several. By the time that the region had towns of the rank of *municipium*, in the second century A. D., management by the owners of the estates, private or imperial, was an established fact (see Frank, in *Am. Journ. Phil.*, XLVII [1926], 153-5).

I, 6. The ordinance of the procurators was based on the "Lex Manciana," which seems to have been a regulation issued by an earlier owner of a large tract in the region (Frank, *op. cit.*, 155-7). Possibly it was T. Curtilius Mancianus ("Curtilius," no. 2 in *R.-E.*). The "law" applied only to this estate and to the nearby Saltus Neronianus (25943, I, 7-8). Apparently it represented the effort of the earlier owner to satisfy his tenants and increase his own income by allowing them to squat upon subseciva, or odd unsurveyed pieces of rough land which were enclosed in his land. Rostovtzeff regards it as a regulation issued by a legate of Vespasian who organized the estates confiscated by Nero (*Kolonat*, pp. 322 f.). The word *dominis*, however, which occurs several times (I, 10; II, 4; III, 20; IV, 24) must refer to private owners. The fact that it is always plural suggests that it refers to all future owners, who are bound to recognize the servitude on the land created by this arrangement of the owner who drew up the "law." Further, the regulation of an imperial legate should have borne the emperor's name and applied to all the imperial estates.

I, 6. The tenants of the villa are the only people who are given the opportunity to take up these odd lots. The phrasing seems to imply other tenants who did not have houses, perhaps men from the neighboring villages who worked on the estate in some capacity or other. If there was another class of real tenants on the estate (Rostovtzeff, *Kolonat*, p. 342), at least it was subject to the same amount of share-rents and work (*operae*; 25902, IV, 23-27).

I, 8-10. The subseciva were rough parts of the land neglected by the surveyors when the Marian veterans were settled. Although these odd pieces of land belonged to the State, it was safe to enclose and use them, for the State was not interested in such small matters. The only title which could be granted, however, was the *usus proprius*, "provisional title," of this inscription, which amounted to full title with the recognition that the land was not allodial and could be claimed by the State. A definition of this "provisional title" may be given in the fragmentary lines IV, 1-9 of this inscription by the procurator of Trajan. Apparently the title was such that the land could be legally pledged or mortgaged. The framer of the Lex Manciana could give only "provisional title." The procurators of Trajan apparently recognized this unusual title and defined it a little more fully. The law of Hadrian discussed under 25902, where it is mentioned, gave a full title in the usual terms (25902, II, 14-20).

I, 11. The colonus, or tenant, is to give the produce which constitutes his rent to the *conductores*, "lessors" or "master-tenants" or to their bailiffs. The lessors had two functions. The first, as in this passage, was to collect the rents of the estates for their imperial owners. The second, as in 26416, II, 6-7, III, 1-2, was to cultivate for themselves certain parts of the estates. Apparently there were groups of lessors active in the important regions, each lessor being equally responsible to the treasury (J. Carcopino, "Fermier général ou sociétés publicaines," in *Revue Études Anciennes*, XXIV [1922], 13-36).

I, 10-20. This apparently is a system for arranging the payment of rent on the

crops grown on the *subseciva* (I, 10, *eo loco*) which would be on the hills at some distance from the central *area*, "threshing floor," so that the whole crop need not be carted down to be threshed and divided. It will be noted that cereal culture is considered possible on the unsurveyed parts, since threshing is mentioned. The following lines refer to the payment of the rents out of the crops grown on the surveyed lands (I, 20-22, *qui villas habent*).

I, 20-29. The products mentioned here, with the addition of figs (II, 20-24) and of sheep, which pay a head tax, not a rent in kind (III, 17-20) are the only products for which there is evidence. The share system of paying rent is the natural one in a country where not much money circulated and in the case of small renters who were not able to manage the marketing of their surplus at Carthage, some fifty miles away.

I, 30—II, 13. Apparently the tenant was not allowed to have more than five beehives at the time when the honey was gathered; if he had more, he must give up the honey produced in the extra ones. Possibly the rule was to protect the interests of the lessor, who himself produced honey and might suffer losses if his bees swarmed and were hived by the tenants.

II, 8. The *octonarius ager* to which the hives might not be removed probably was land belonging to the Libyan villages which were left among the Marian allotments. Probably it paid a stipendium of an eighth in kind. It was outside the estate.

II, 13-17. This section seems to provide that the tenant may have some fig trees of his own on his plot on which he is to pay a share at his own reckoning. Figs were an important article of diet in Africa (Pliny, *N. H.*, 15, 82).

II, 18—III, 10. A period of freedom from rent was allowed on fig and olive trees and vines. All these must of course be a few years old before giving any yield. Figs might be planted anywhere. New vines might be planted only in place of old ones. This need not necessarily mean that Domitian's prohibition of wine-growing in the provinces was still in force; possibly Trajan thought it impolitic to import too much wine into Italy from the estates. It is also possible that all possible land was to be planted to cereals. Olive trees too were to be put only on the *subseciva* which were brought under cultivation, probably because a wheat crop was desired from the flatter land.

III, 12-17. The purpose of this provision seems to have been to penalize those who let fields lie fallow unless they were planted to vetch, which, as the Romans knew, has some value in restoring the soil.

III, 17-20. Probably the humbler people of Africa kept sheep to an extent of which the sources give no indication. The wool is not regarded as a product of which the landlord takes a share, probably because the average family used it for clothes.

IV, 22 and 28. Only conjectures are possible regarding the *inquilini* or *coloni* *inquilini*. It is plain that they had a part in the life of the estate which might sometimes be a sort of tenancy, since they could be called *coloni inquilini*. Possibly they were villagers from nearby who worked on the estate (see Rostovtzeff, *Kolonat*, 341-2).

IV, 32. The *stipendiarii* presumably were the natives of the neighboring villages.

IV, 34-5. The slaves were those of the lessor. With them he farmed his section of the estate and collected the rents of the tenants.

25943 ("the inscription of Ain-el-Djemala"), I-III. The relations of the various rulings and petitions referred to in this inscription and in 25902 apparently are as follows (a) the *Lex Manciana* had recognized the practise of squatting on the *subseciva*, or *ager incultus* (b) the procurators of Trajan had recognized the practise, at least on the imperial estate known as *Villa Magna* (c) at some unknown time the rule was applied to the *Saltus Neronianus*, or perhaps that *saltus* had

absorbed the one called Villa Magna (d) under Hadrian a request was made by people near Thignica, perhaps non-coloni, for the privilege (e) the answer was made on the basis of a law composed in time to be applied to the petition and treating of virgin soil and those lands which have been left uncultivated for ten years continuously (f) on the basis of this law the procurators named certain parts of the estates in the region where the petitioners might enter upon unimproved land or land not used by the lessors.

This law of Hadrian applied only to these estates. There is no evidence of the sort one would expect to find that it applied to land outside the estates (see the full discussion in Broughton, *Romanization*, pp. 168-172).

The conditions revealed by this inscription are as follows: some subseciva still remained (*rudes agri*). The first part of the law applied to them, apparently using the principles of the *Lex Manciana* and the adaptation of it made by Trajan's procurators, except that full title was given to those who took up the rough land and made it productive. No mention is made of the raising of cereals in any part of this inscription, from which it may be concluded, as far as the subseciva were concerned, that those suitable for cereals were all or practically all taken. The inscription states that the emperor wishes land suitable for olives and vines as well as that suited for cereals to be used, which would lead to the same conclusion. The second part of the law applied to lands which had not been cultivated for ten years continuously. Apparently this section refers only to the parts of the estate farmed by the lessors, for the rights of cultivation of the *coloni* lasted through only two years of neglect (25902, IV, 9-22), and the lands designated by the procurators as available are those not cultivated by the lessors (25943, II, 13-14). These lands presumably were also subject to the principle that land suitable for olives and vines as well as for wheat was to be cultivated. This suggests two possibilities. The first is that erosion had so harmed some of the hillier land that wheat could no longer be grown on it profitably, although olives and vines could. The second is that the lessors, who leased the land for five-year terms, preferred not to commit themselves to the long-term operations of developing vineyards or olive orchards, and therefore did not cultivate certain lands under their control which were too hilly for wheat. Possibly they pastured cattle on them. It is most likely that both causes were responsible for the neglect of the land. On the location of the estates named in the inscription see J. Carcopino, "L'inscription d'Aïn-el-Djemala," in *Mél. d'arch. et d'hist.*, XXVI (1906), 365-481.

This was not an attempt to encourage olive growing all over Africa, but only in this one region where otherwise useless or slightly profitable land could be made to yield a good return through olive culture. It is a piece of economic opportunism on Hadrian's part, a counterpart of which he is known to have used in Egypt (W. L. Westermann, "Hadrian's Decree on Renting State Domain in Egypt," in *Journal of Egyptian Archaeology*, XI [1925], 165-78).

*C. I. L.*, VIII, 10570. The requirement of work from the tenants of the estate is peculiar to this region. It probably grew up naturally from the fact that the large estates more or less replaced the *pagi*. The landlord might employ his slaves on some of the community work in exchange for help from the tenants during the seasons of agricultural activity (Frank, *op. cit.*, 167-9). The requirement was not always the same, for at Gasr Mezuar on an estate of unknown name it totaled twelve days (*C. I. L.*, VIII, 14428).

The wording of this inscription shows plainly how disadvantageous the position of the tenants was in regard to the lessor. There is no need to suppose, however, that they were in a state of serfdom or even well on the way to serfdom.

Not only the emperors, but many individuals, both Roman and Afri-



can, had large estates. Very little is known about these estates except the location and the names of the owners of some of them. They were located here and there over the whole country, showing no noteworthy grouping in any region. Those owned by Romans are to be regarded as under absentee ownership.

The small properties of Africa are seldom mentioned, but their existence and importance must not be forgotten. Small properties were not always merged into large ones in spite of the fact that such probably was the fate of many small ones in certain regions. The pagus of Augustan veterans at Sutunurca, for instance, remained a pagus for over two centuries at least (*I. L. A.*, 301), most of the holdings presumably remaining small. The very modest *summae legitimae* of some of the towns imply a population in very modest circumstances, yet stable and sound, and doubtless possessing properties of modest size. The irrigation schedule of Lamasba (*C. I. L.*, VIII, 18587) implies small properties. The subsistence farms of which traces are found in every out-of-the-way corner of the country were small. See P. Romanelli, "Brevi note sulla distribuzione della piccola e grande proprietà agricola nell' Africa romana," in *Atti III congresso di studi romani*, (1929), I, 341-8.

### VIII. POPULATION

The bulk of the population of Africa during this period was made up of Roman citizens from various parts of Italy and of Berber and Punic natives. There was a considerable immigration of Romans in the first century of the period, partly through official deduction of colonies, partly as individuals. The colonies will be discussed first.

Augustus sent a goodly number of veterans to Africa as colonists. The most important colony was Carthage, where in 29 B. C. he settled 3,000 veterans (Gsell, "Les premiers temps de la Carthage romaine," in *Revue historique*, CLVI [1927], 225-40). Appian says, *Pun.*, 136: οἰκητοράς τε Ῥωμαίους μὲν αὐτὸν τρισχίλιους μάλιστα πυνθάνομαι, τοὺς δὲ λοιποὺς ἐκ τῶν περιόικων συναγαγεῖν, "I have ascertained that he sent some 3,000 colonists from Rome and collected the rest from the neighboring country." Possibly the colonists who were "collected from the neighboring country" were descendants of the Gracchan colonists who were carrying on *viratim* and logically belonged to the colony (W. Barthel, *Zur Geschichte der römischen Städten in Africa*, p. 17). Apparently

a part of the colony of 43 B. C. (see *supra*, ch. i) had been removed by the pontifex maximus Lepidus from the ground accursed in 146 B. C., and was now rebuilt by Augustus, whose peculiar position enabled him to enforce his clear conviction that it would be folly not to let the new Carthage enjoy the excellent site and harbor of the old one (Cassius Dio, 52, 43). He also established a Punic town beside the Roman town (Müller, *Numismatique*, II, nos. 319, 320; Mommsen, *Chronica minora*, p. 217; Tertullian, *De Pallio*, 1; Broughton, *Romanization*, p. 53). The fact that the Punic cults flourished at Carthage from about this time indicates that a fairly large number of people of Punic blood settled there (Carcopino, "Sallust, les Cereres, et les Numides," in *Rev. historique*, CLVIII [1927], 4-5). The two bodies were presently merged, and the Punic element doubtless played a large part in the later prosperity of Carthage.

Augustus made five other colonial settlements of veterans in the proconsular province and Numidia beside that at Carthage: Thuburbo Maius, Sicca Veneria, Maxula, Uthina, Cirta ("Coloniae," in *R.-E.*, IV, 533; on Cirta see *C. I. L.*, VIII, pp. 618 ff., and Broughton, *Romanization*, pp. 71-76). The colonies of Carthage, Maxula, Uthina, and Thuburbo Maius were in territory which must have been well developed. Probably the proscriptions had fallen heavily on the owners of land in this region; otherwise it is difficult to understand how so much land was available for purchase (assuming that it was purchased, as the *Res Gestae* boasts). The fact that veterans were settled in *pagi*, not colonies, at Medeli (*C. I. L.*, VIII, 885) and at Sutunurca (*I. L. A.*, 301) suggests that the policy of Augustus was to disturb local conditions as little as possible, for here there seems to have been too little land available for the foundation of colonies (Broughton, "Some Non-colonial Coloni of Augustus," in *Transactions American Philological Association*, LXVI [1935], 18-24).

Augustus founded a dozen colonies of veterans in Mauretania (Pliny, *N. H.*, 5, 2. 5. 20). Between the death of Bacchus in 33 B. C. and the establishment of Juba II as king in 25 B. C. the country was under his control ("Mauretania," in *R.-E.*, XIV<sup>2</sup>, 2371). Presumably the colonies were founded as part of the program of settling veterans shortly after Augustus had rid himself of Antony and were intended both to help the veteran problem and to serve as centers of civilization and as military outposts in this somewhat wild country. In the eastern

part of Mauretania there were six maritime colonies: Igilgili, Saldæ, Rusazus, Rusguniæ, Gunugu, Cartenna, and three inland: Tupusuptu, Aquæ (see S. D. Detlefsen, *Die Geographie Afrikas bei Plinius und Mela*, p. 23), Zucchabar. In the western part were Zulil, on the Atlantic coast, Babba, at some indeterminable inland point, and Banasa, on the Sebon River.

Under Claudius there were further settlements of veterans in Mauretania. The fact that the revolt of Aedemon had just been suppressed with some difficulty points fairly clearly to military policy as the reason. Colonies of veterans were sent to join the native towns of Tingi, Lixus, Caesarea (Iol), and Tipasa, and Oppidum Novum was founded (Pliny, *N. H.*, 5, 20). The few settlements of veterans in the rest of the first century seem to have been made for the same reason. The settlement of veterans in the native town of Madauros was made in the Flavian era (*I. L. Alg.*, I, 2070), while those at Cuicul (*Comptes rendus Acad.*, 1916, pp. 593-99) and at Sitifis (*C. I. L.*, VIII, 8473) were made in the reign of Nerva.

In 100 A. D. Tingad was established as a veteran colony (*C. I. L.*, VIII, 2355; 17841). Apparently a number of small settlements of veterans were made at outlying points in southern Algeria above the Aurès Mountains during the reigns of Trajan and Hadrian (Broughton, *Romanization*, pp. 136-8). Casae, Lambiridi, Lamigigga, Lamsorta, Lamasba, Diana Veteranorum, Lambafudi, and Verecunda may be mentioned. The soldiers of the camp at Lambæsis often had common-law wives and families in the town near the camp, and presumably many of them lived in the town after their discharge. It is open to doubt whether veteran settlements of later times are settlements of Romans, for by the time of Trajan a large proportion of the soldiers in the Roman army were drawn from the provinces.

Beside this official colonization there must have been a certain amount of immigration of individuals during the first century B. C. The evictions of Sulla, the Second Triumvirate, and Augustus made it necessary for a great many people in Italy to find some new habitation. Africa was a land of fertility and was not overcrowded, so that it must have been attractive to those who were evicted. Vergil gives a vivid picture in his first Eclogue of the distress of these unfortunate people. Line 64 is perhaps to be taken literally: at nos hinc alii sitientes ibimus Afros, "but we others must go off among the thirsty Africans."

It is impossible to determine the amount of immigration to Africa in this century. Rostovtzeff believes that there was a huge immigration from Italy to the western provinces, including Africa (*Studien zur Geschichte des römischen Kolonates*, pp. 319-20; *Soc. Econ. Hist.*, pp. 33-6; this conclusion is contested by W. E. Heitland, "A Great Agricultural Emigration from Italy?" in *Journ. Rom. Stud.*, VIII [1918], 34-52). Frank and Broughton have suggested on the basis of evidence applying to Africa alone that there was an immigration of some proportions to Africa at the time of the wholesale evictions of the early Augustan period (Frank, "Vergil's First Eclogue and the Migration to Africa," in *Classical Review*, XL [1926], 15-16; Broughton, *Romanization*, pp. 78-83).

The evidence for this latter view consists of a list of fifteen *oppida civium Romanorum* in Africa in Pliny (*N. H.*, 5, 29). Pliny's source was an official document of the early reign of Augustus. The list of towns follows, those that cannot possibly be identified and are therefore of no use for this discussion being put in italics: Absuritanum, Abutucense, Aboriense, Canopicum, Chiniavense, Simittuense, Thunusudense, Thuburnicense, Thibidrumense, Tibigense, Uchi Maius, *Uchi Minus*, Vagense, Uticense, Tabracense. The towns all bear African names, and to explain this classification of them it must be assumed that each contained enough Roman inhabitants so that the government of the town, or part of it, was conducted in Roman fashion, although the town had existed before the Romans came.

It is possible, however, that some of these towns had a goodly number of resident Roman citizens well before the early Augustan period. Utica had been the chief town of the province since 146 B. C., and had not yet been eclipsed by the rise of Carthage, so that it had probably had a number of Roman citizens for a long time. The settlement of veterans by Marius will account for the presence of Roman citizens at Uchi Maius and Vaga. It is possible that the marble of Simitthus, which was much used in the Augustan building program, was already more in use than it had been, which would account for the presence of Roman citizens there. The town was given colonial status some time after 27 B. C., as is shown by its name, *Colonia Julia Augusta Numidica Simitthus* (*C. I. L.*, VIII, 14612). Activity of the quarries at Simitthus implied activity at the port of Thabraca, which was also probably used for the export of wild animals and wood, so Thabraca

may have had a fair number of resident Roman citizens for some time. If "Tibigense" be taken as Thigibba, the Marian colonization may be taken as explanation; if it be taken as Thibica, there is a possibility that the Roman citizens came there after the sale of 111 B. C. If "Thibidrumense" be the [Col. J]ul. Thub... of *C. I. L.*, VIII, 14452, northwest of Vaga, the presence of Roman citizens there may also date from 111 B. C.

In the case of Chiniava, Thuburnica, Thunusuda, and Assuras there is no reason for supposing that Roman citizens came in any numbers at an earlier period, while the assumption of an immigration in the early Augustan period is entirely consonant with what is known of their history. It is possible, of course, that immigrants settled in many parts of the province where Roman citizens had been before. Even though no new land was available, they might find a living in trade or become tenants.

There are a few scattered evidences of the presence of Romans in various parts of the country. The pagus Minervialis near Hippo Diarrhytus was probably composed of Romans (*C. I. L.*, VIII, 25423). Apparently the inhabitants of the Vicus Annaeus near Senta were Roman citizens (*Comptes rendus Acad.*, 1923, pp. 197-201), as were those of the Vicus Haterianus near Thibica (*C. I. L.*, VIII, 23125). Other such groups were found at Thinissut (*I. L. A.*, 306), at Tipasa (*C. I. L.*, VIII, 17143), at Sua (*ibid.*, 25850), at Masculula (*ibid.*, 15775), and perhaps at Thibilis (Gsell, *Announa*, p. 13) and Aubuzza, near Sicca Veneria (*C. I. L.*, VIII, 16367).

The Berber and Punic natives surely formed by far the largest part of the population. In the list given by Pliny (*N. H.*, 5, 29, 30) there are 30 "libera oppida," which presumably were towns of natives of stable enough character to have their corporate nature acknowledged by the government. Some of the more important were Acholla, Oppidum Materense (modern Mateur), Thysdrus, Tunis, Theuda, Vaga, Zama, Bulla Regia, Clupea, Curubis, Neapolis, Lepcis, Hadrumetum, Ruspina, and Thapsus. Pliny states, however, that there were 516 "populi" in Africa in all. If the colonies, the Roman towns, and the free towns be subtracted from that number, there are 462 populi left, most of which, he says, may properly be called nationes. The word can hardly signify anything more impressive than a small clan with a more or less fixed abode, which in point of numbers might rightly be

called a village. Further, the nomad tribes of the Nattabutes, Capsitani, Musulamii, Sabarbares, Massyli, Nicives, Vacamures, Cinithii, Musunii, Marchubi, and Gaetuli are listed. It is evident that the natives of these combined groups, some large, some small, must have far outnumbered the Romans.

The other evidence is extremely plentiful. The inscriptions testify to the presence of natives everywhere; epitaphs especially are revealing. Many names which are apparently Roman can be proved to be native, and pure native names can be recognized at a glance (Toutain, *Les cités*, pp. 167-196). There are only some 30,000 inscriptions from Africa, however, and it must be assumed that the countless thousands of the population who lived and died with no memorial of stone were mostly natives. The tribal ranges, for instance, yield relatively few inscriptions. The literary evidence, such as it is, gives the same impression of a large native population. The numismatic evidence proves chiefly that the coastal cities of Tunis were strongly Punic. The cults of Africa, too, were mostly native; the Punic cults of Saturn and Caelestis were most popular, but a number of local cults existed as well (Toutain, *Les cultes païens*, III, 89-102).

In spite of the frequent difficulty in distinguishing Punic elements from Berber elements of the population, certain places can be said with certainty to have had a strong Punic element. Lepcis, Oea, and Sabratha struck coins with Punic legends up to the time of Tiberius (Müller, *Numism. de l'Afr.*, II, pp. 9 ff.). There is evidence that Punic was spoken by many inhabitants of Lepcis (Aurelius Victor, 20, 8; *Vita Severi*, 15, 7; Sallust, *Bell. Jug.*, 78) and of Oea (Apuleius, *Apol.*, 98); the same must have been true of Sabratha. Tripolitania has many monuments of Punic style from the Roman era (R. Bartoccini, "Le antichità della Tripolitania," in *Aegyptus*, VII [1926], 61-4). Other cities on the east coast—Thaenae, Acholla, Thapsus, Leptis, Ruspina, Hadrumetum, Carthage, Utica—are proved to have had a large Punic element by the evidence of coins as above and by the cults, as at Carthage or Hadrumetum (Toutain, *Les cultes païens*, III, ch. i). Although the Carthaginians had many trading posts on the northern coast, the only one where the Punic influence was strong in Roman times was Hippo, where in the time of St. Augustine Punic was the vernacular (Augustinus, *Epp.*, 66, 2; 108, 14; 209, 3); it

may well be, however, that the population was more Numidian than Punic.

A number of places in the proconsular province and in Numidia seem to have had a strong Punic element. There were sufetes, for instance, in some towns of the lower Miliana Valley and in some towns of the general region of Thugga, Mactar, and westward; the traces of Punic influence in the latter regions are probably due to a flight westward of Punic people (Broughton, *Romanization*, pp. 206-7) at the time of the Third Punic War. In Numidia Punic inscriptions have been found chiefly in the upper Bagradas and Seybouse Valleys (*I. L. Alg.*, introductions to sections). Volubilis had sufetes in the first century A. D. (*I. L. A.*, 634).

The number of Greeks cannot have been very large, if we may judge by the number of inscriptions and tabellae defixionum written in Greek, and the number of Greek names on Latin inscriptions (see W. Thieling, *Der Hellenismus in Kleinafrika*). Most of the evidence of Greek inhabitants comes from Carthage, Hadrumetum, and Caesarea; a few other cities have one or two pieces of evidence. The large number of Greeks in Carthage and Hadrumetum perhaps can be partly explained by the commercial activity in those cities; the Greeks at Caesarea were perhaps descendants of some of those imported by King Juba. The cemetery of the officials at Carthage contained at least fifty per cent of Greek slaves and freedmen (*C. I. L.*, VIII, 12590-13214). Several Greeks were physicians; many were connected with the circus in some capacity.

Groups of Jews presumably settled in Africa at a fairly early period, since they were well established in Cyrenaica in the time of the Ptolemies. We have evidence of the presence of Jews in the following places: Carthage (*C. I. L.*, VIII, 14097-14114; a large Jewish cemetery; their presence there is also implied by the attacks of Tertullian in *Adversus Iudaeos*); Naro, near Carthage (*ibid.*, 12457; mosaic with inscription from a synagogue; third or fourth century); Utica (*ibid.*, 1205 and p. 931; an archon); Uzelis (Augustinus, *De Civ. Dei*, 22, 8, 21); in Byzacena (*id.*, *Ep.*, 196); Simitthus (*id.*, *Serm.*, 17, 9); Hippo (*id.*, *Serm.*, 196, 4); Oca (*id.*, *Ep.*, 71, 3, 5); Hadrumetum (*Comptes rendus Acad.*, 1892, pp. 226, 231); near Tripoli (Tabula Peutingeriana, a place called "Locus Iudaeorum Augusti"); Oirta (*C. I. L.*, VIII, 7150, 7155, 7530 and p. 965, 7710); Ksour el Ghen-

naia, near Lambaesis (*ibid.*, 4321); near Theveste (*ibid.*, 16701); Sidi-Brahim, near Madauros (*ibid.*, 16867); Sitifis (*ibid.*, 8423, 8499); Auzia (*ibid.*, 20759); Caesarea (*Acta Marcianae*, 4); Tipasa (*Passio Sanctae Salsae*, 3); Volubilis (*Bull. Com.*, 1892, 62-4). See P. Monceaux, "Les colonies juives dans l'Afrique romaine," in *Revue des études juives*, XLIV (1902), 1-28, and J. Juster, *Les juifs dans l'Empire romain*, pp. 207-9.

A temple of Serapis and Isis was found at Gigthis (Constans, *Gigthis*, pp. 91 f.), which suggests the possibility that Alexandrian Greeks were resident there.

### Cities

The cities of Africa were agricultural centers or ports for the exportation of agricultural products; the quarry-town of Simitthus is the only one which can with certainty be called industrial. Carthage, to be sure, had some manufactures, but the prosperity of the city was based chiefly on its strategic position as port for the lower Bagradas Valley.

The cities have been well preserved, comparatively speaking. Timgad is universally known as a splendidly preserved example of a regularly planned Roman city, with paved and colonnaded streets, arch, Capitol, forum, market buildings, theater, temples, baths, and library (R. Cagnat, E. Boeswillwald, A. Ballu, *Timgad*; A. Ballu, *Guide illustrée de Timgad*). Few other cities in Africa were as regular in plan ("Städtebau," in *R.-E.*) as Timgad, which was created by the imperial government as a military colony and an advertisement of civilized life to the natives of the border. Every town of any size, however, was furnished with most of this municipal paraphernalia, and separate items of it, especially stone temples, are found in surprisingly small towns.<sup>12</sup>

<sup>12</sup> The remains of the towns are reported in the *Atlas archéologique de la Tunisie* and the *Atlas archéologique de l'Algérie*. The standard general works on ancient architecture contain descriptions of most of the chief ruins of Africa; see, for instance, D. S. Robertson, *A Handbook of Greek and Roman Architecture*, Appendix II, pp. 355-6. The aqueducts, cisterns, wells, and dams are reported in P. Gauckler, *Enquête sur les installations hydrauliques romaines en Tunisie*; the corresponding *Enquête* for Algeria is incorporated in *Atl. arch. Alg.*; see also S. Gsell, *Les monuments antiques de l'Algérie*. J. Toutain, *Les cités romaines de la Tunisie*, E. Cat, *Essai sur la province romaine de Maurétanie césarienne*, and J. S. Reid, *The Municipalities of the Roman Empire*, ch. x, are all useful, although all need revision and amplification. The articles in *R.-E.* under the names of the several cities give sum-



Carthage was the largest city in Africa and one of the chief cities of the Empire (cf. Ausonius, *Ordo Urbium Nobilium*, 2-14). Utica outshone it until Augustus gave it new colonists, freed the accursed ground for its use, and encouraged the Punic residents by improving their status, after which Carthage soon rose to its position of preeminence. It was the capital of the province and the port for the cereals and oil of the lower Bagradas Valley, one of the richest parts of Africa. See A. Audollent, *Carthage romaine*, in *Bibliothèque des écoles françaises d'Athènes et de Rome*, LXXXIV, and "Karthago," in *R.-E.*

Hadrumetum and Tacapae seem to have been the chief seaports of the east coast of Tunis. The ravages of time and of later inhabitants have been such, however, that this supposition rests chiefly on the fact that they were the ports for fertile hinterlands. Hadrumetum handled oil and possibly cereals from northern Byzacium. Its buildings had not entirely disappeared before the advent of the archaeologists; the theatre probably seated about five thousand (*Atl. arch. Tun.*, fe. 57, 16); the Musée des IV<sup>e</sup> tirailleurs at Sousse contains many minor objects of luxury. Ancient Tacapae has practically disappeared, but it was the port for a prosperous oil-producing region and perhaps the end of a caravan route.

Lepcis, Oea, and Sabrata, the three cities of Tripoli, may be mentioned with the seaports of Tunis. The concentration of mediaeval and modern life in Oea, the modern Tripoli, has covered or destroyed most of the monuments, but many ruins have been excavated in the other two cities. Lepcis is the more impressive of the two, especially because of the forum, basilica, and other structures presented by its famous son, Septimius Severus (P. Romanelli, *Leptis Magna*; R. Bartoccini, *Guida di Lepcis*). The present state of the ruins gives the deceptive impression that the town owed most of its magnificence to Septimius Severus; as a matter of fact, it prospered soundly from Punic times to the end of the Empire on its oil and caravan trade (cf.

maries of the chief monuments and of local history as well as geographical information. See further "Macellum," in *R.-E.* and *Dict. Ant.*, A. G. Drachmann, *Ancient Oil Mills*, and F. Benoit, "Pressoirs d'olives . . . en Provence et en Afrique," in *Mém. inst. hist. Provence*, 1936 (inaccessible to me). Such moveable fragments of buildings, mosaics, and smaller objects of art and utility as have not been taken abroad are published in *Musées de l'Algérie et de la Tunisie*. For Christian edifices and art see "Afrique (Archéologie de l')" in R. P. Cabrol, *Dictionnaire de l'archéologie chrétienne et de liturgie*, I, 658-742.

Gsell in *Mém. Acad. Inscr.*, XLIII [1933], 149-66). Sabratha is distinguished by its fine amphitheater (65 x 49 m., two-thirds the axes of the Colosseum); its prosperity seems to have been founded on the export of wild animals and the exotic wares brought by the caravans from the interior (R. Bartoccini, *Guida di Sabratha*; R. Paribeni, "Gli scavi di Leptis Magna e di Sabratha," in *Dedalo*, V [1924-5], 665-88).

The northern coast is poor in harbors. In three places there is the fortunate combination of a usable harbor and a reasonably easy passage through the hills to the rich cereal and olive country of the interior, and at those points the ports of Hippo Regius, Rusicade, and Saldæ developed. Hippo Regius drained the cereals and oil, and perhaps wild beasts, of the upper Bagradas Valley (H. V. Dennis, *Hippo Regius*). Rusicade, as a glance at the map will show, was in an even more favorable position. It was the natural port for the camp at Lambæsis and for all the rich region of cereals, olives, and pasturage between. It had a theater seating five to six thousand persons and an amphitheater 78 x 59 m. The high *summae legitimæ* of Rusicade also suggest that it was by far the wealthiest of these three ports. Saldæ was the shipping point for the extreme west of the great agricultural region.

Caesarea had both a naval harbor and a commercial harbor. The city had more political than commercial importance, however; it was the provincial capital and the base of the provincial fleet. Evidence for trade is not lacking, but there was no extensive hinterland to pour a great volume of exports through it. The many objects of art and luxury housed in the local museum and the inscriptions of workers in the luxury trades are reflections of the brilliant reign of King Juba II (Gsell, *Hist. anc.*, VIII, 206-250). Tingi was the port of Mauretania Tingitana; apparently its communications were chiefly with Spain.

The municipal life of the interior of Africa is remarkable not for the presence of a few large and brilliant cities but for the presence literally of scores of cities of perhaps three to ten thousand population which were solidly prosperous and furnished with a surprising number of the amenities of municipal life. In the northern part, where the rainfall was heavier, we are astonished with the number of cities and their proximity to one another, as in the valleys of the Bagradas, Kralled, and Miliana Rivers. In the drier regions of the southern part

it is equally astonishing to see the remains of several large and rich cities, whose economic life was based on olive culture, in regions which nowadays have no important towns in spite of the brilliant revival of olive culture near the coast.

Thugga may perhaps be singled out as the richest city of the proconsular province after Carthage, although the incompleteness of the evidence makes such a statement impossible of proof. The extremely large number of gifts to the town recorded in the inscriptions, the number of monuments still visible (L. Carton, *Thugga*), the size and fertility of its territory, and the business opportunities offered by the imperial estates of the regio Thuggensis (J. Carcopino, in *Rev. Ét. Anc.*, XXIV [1922], 13-36) create a presumption that the town was very prosperous.

Several other towns in the northern part of the province must have prospered soundly. Uchi Maius had a position slightly less favorable than that of Thugga, although less is known of its material remains, and fewer dedications are recorded. The *summa legitima* for the *flamonium perpetuum* was rather high, however—12,000 sesterces. Thuburbo Maius enjoyed an excellent situation in the Miliana Valley for production of and commerce in cereals; its *summa legitima* was likewise high, and the partial excavation of its site indicates that the town was large (A. Merlin, *Le forum de Thuburbo Maius*). Many other towns, such as e. g. Seressi, Musti, Mactar, or Althiburos, survive in no inconsiderable remains.

Thysdrus and Sufetula were the chief cities of the southern part of the province. Thysdrus, which in 46 B. C. was so insignificant that Caesar hardly cared to punish it, was able in the middle of the third century to build the third largest amphitheater of the Roman world, seating some sixty thousand persons. This illustrates the different distribution of population in the drier regions. Thysdrus itself had no such population as this great structure implies, nor is there any sizable town nearby. In a countryside of olive groves people could not live in numerous sizable towns and go out to work every day; the water supply was not sufficient, and the huge, widely spaced olive groves stretched too far. We find instead numerous tiny hamlets about the modest springs and many separate farmhouses with their own cisterns and wells. On festal days every road led to Thysdrus and the great amphitheater was filled. Although Sufetula has no such striking

monument, the partial excavation of it shows that it too prospered greatly with the development of olive culture (A. Merlin, "Forum et Églises de Sufetula," in *Notes et Documents* [1908]).

Cirta undoubtedly ranked first among the inland cities of Numidia. The epigraphical testimony of its wealth and monuments, its splendid economic position, and the unusual prominence in the Empire of some of its citizens, amply prove its primacy. No other city of Numidia except Rusicade approached it, yet there may have been a fair amount of wealth in some of the less impressive cities; Diana, for instance, in the great olive region, had the surprisingly large *summa legitima* for the *flamonium perpetuum* of 10,000 sesterces. Theveste is notable for the wealth attested by its inscriptions and for its huge Christian edifices of a later date ("Theveste," in *R.-E.*), but unfortunately fewer details of its life are now available. Numidia had fewer cities than the proconsular province; the imperial estates and the tribal ranges took up much of its area. Cuicul and Calama were perhaps the most prosperous of the minor cities, with Lambaesis as their rival [A. Ballu, *Les ruines de Djemila (antique Cuicul)*; see Gsell and Joly, *Khamissa, Mdaourouch, Announa*, on three typical small towns]. Lambaesis is distinguished for the ruins of the camp of the *Legio III Augusta* (Cagnat, *L'armée*, pp. 441-519). It also has the large *summa legitima* of 12,000 sesterces for the *flamonium perpetuum*. Possibly the military activity had as much to do with the wealth of the town as the commercial. Lambaesis, Verecunda, Tingad, Diana, and Cuicul are all distinguished by the number of mausolea and statues that have been found there.

Mauretania Caesariensis comprised two zones. Where it joined Numidia it extended much farther inland and was a continuation of the fertile cereal lands of northern Numidia. There were a fair number of towns in this region, of which Sitifis was probably most important. It was the focus of a rich territory which the modern investigators found covered with Roman ruins on every side. Farther west for several hundred miles the province consisted only of a relatively shallow strip of land along the seacoast. A glance at the map will show how many small towns were on the coast; inland there were fewer (see S. Gsell in *Mél. d'arch. et d'hist.*, XIV [1894], 291-450, on Tipasa and P. Grimal, *infra*, on Siga; on the smaller town of Sala in Mauretania Tingitana see S. Gsell and J. Carcopino, "La base de M. Sul-

picius Felix," in *Mél. d'arch. et d'hist.*, XLVIII [1931], 1-39). These towns, as well as Volubilis, the most important town of Mauretania Tingitana, were surprisingly active in the early and middle third century, as is shown by the inscriptions and monuments. The movement then seemed to fail. Presumably the explanation is that the emperors of the early third century made a vigorous effort to establish and secure the *limes* of the province. By so doing they made possible more consistent exploitation of a fertile and almost virgin country and gave artificial stimulation to the life of many towns by the presence of strong garrisons (on this process in Siga see P. Grimal, "Les fouilles de Siga," in *Mél. d'arch. et d'hist.*, LIV [1937], 108-141). Had this not been one of the last efforts of a failing Empire, the Romans might eventually have drawn wealth from the considerable region farther inland which is so successfully exploited now.

## CHAPTER III

### AFTER 235 A. D.

Africa had its share of the bloodshed and disorder that characterized the half century following the death of Alexander Severus. The struggles which attended the elevation, brief reign, and fall of the Gordians in 238 A. D. are of especial interest because of their economic implications. The only worthwhile account of the process is that given by Herodian, for the account given by the biographer of Maximin is plainly inaccurate (*Vita Maximini*, 13-19; cf. Rostovtzeff, *Soc. Econ. Hist.*, pp. 402-3). Herodian's version (7, 4-9) is as follows: the procurator of Maximinus in the proconsular province had instructions to raise money, and was proceeding in a logical manner by extorting it from the more well-to-do citizens. They, being faced with ruin by the loss of their estates, gathered a number of their dependents, set upon the procurator, killed him, and gathering support from others of their class, proclaimed Gordian emperor. Gordian accepted, proclaimed himself to the Senate, and was accepted by it as emperor. His program was the banishment of imperial spies and the restoration of confiscated estates. He was unable to gather any regular or effective troops, however, and was quickly overcome by the regular army commanded by Capellianus, the legate of Numidia. Capellianus then let loose his troops to burn and pillage in city and country, killed many prominent men, exiled common citizens, and confiscated any money that he could find, whether of the citizens, the cities, or the temples.

It is evident that this was not a revolt of peasants, but of the classes which obviously would suffer most from the exactions of an emperor determined to get money as best he could. The capital and the productive power of the province probably never recovered entirely from this sore blow.

The rest of the third century saw frequent raids of the Moorish tribes. The proconsular province seems to have been free from this constant danger, but Numidia occasionally suffered, while Mauretania, where the hills were full of semi-civilized natives, suffered severely (Cagnat, *L'armée*, pp. 59-70).

The struggles occasioned by the Donatist heresy continued through

the fourth and early fifth centuries (Cagnat, *L'armée*, pp. 73-4; P. Monceaux, *Histoire littéraire de l'Afrique chrétienne*, VIII, 3 ff.). What started as a simple heresy apparently turned into a great social revolt of the natives of Africa, which time and time again led to bloody battles. A leading part in the disorder was taken by certain people called "Circumcellions," who have generally been regarded as fugitive slaves, bankrupts, and malcontents of the lower orders in general. It has recently been suggested with some plausibility that they were a recognized and classified element of the population which was to be in as good standing as any other if only it would renounce Donatism (C. Saumagne, "Ouvriers agricoles ou rôdeurs de celliers?" in *Annales d'histoire économique et sociale*, VI [1934], 351-64). St. Augustine remarks that they spoke only Punic (*Ep.*, 108, 5).

The greatest Moorish revolt of all broke out about 370 A. D., led by Firmus, a minor native prince. This was the most dangerous and destructive of all these wars. It was finally put down by Theodosius, the father of the emperor, in 375, after he had fought with Firmus for three years (Cagnat, *L'armée*, pp. 78-90). The last great uprising was that of Gildo, the brother of Firmus, in 396-98 A. D. This too was unsuccessful. In 430 A. D. Africa was abandoned to the Vandals.

The description of natural products given for the preceding period will in general apply to this period. Cereals and oil continued to be the most important product (see R. Cagnat, "L'annone d'Afrique," in *Mém. de l'Inst.*, XL [1916], 247-277). After the building of Constantinople the cereals of Egypt were sent there and Rome was fed chiefly by Africa (Claudian, *De Bello Gildonico*, I, 58-62: [Rome personified says] videbam Punica Niliacis concurrere carbasa velis, cum subiit par Roma mihi . . . Aegyptia rura in partem cessere novae; "I used to see African sails racing with Egyptian on the way to Rome, when a Rome equal to me arose . . . The Egyptian fields went over to the new one." Cf. *Codex Theodosianus*, 11, 1, 2. 10. 11. 13. 16. 17. 28-31, which contain imperial regulations pertaining to the supply of food from Africa). The rebellion of Domitius Alexander (308-311 A. D.) and the consequent cessation of the shipments of cereals caused a serious shortage in Rome (Eusebius, *Historia Ecclesiastica*, 9, 14). The uprisings of Gildo in 396-8 (Claudian, *De Bello Gild.*, I, 62-69) and of Heraclianus a few years later (Orosius, 7, 42, 12) had the same effect. The letters of Symmachus (end of the fourth

century) express constant worry about the supply of grain from Africa, even in times of peace (*Ep.*, 4, 54; 4, 74). Oil is only occasionally mentioned (*Cod. Theod.*, 14, 15, 3; Symmachus, *Ep.*, 9, 58). According to the *Expositio Totius Mundi*, a work of the middle of the fourth century, the "province of Africa supplies the world with oil almost alone," *paene ipsa omnibus gentibus usum olei praestat* (61; in *Geographi Latini Minores*, ed. A. Riese).

A few scattered notices on other natural products belong to this period. Saint Cyprian makes a conventional reference to vines (*Ad Donatum*, 1). Ammianus Marcellinus remarks that the Austuriani cut down the trees and vines when pillaging Lepcis late in the fourth century (28, 6, 13). Vegetius speaks in his *Digestorum Artis Mulomedicinae Libri* of cumin (1, 42, 4), figs (2, 48, 3; 3, 28, 15), salt (3, 24), sponges (2, 13, 8; 2, 34, 1), and race horses (3, 6, 4). Race horses are also shown on African mosaics of this period (*Inventaire des mosaïques*, II, 1, 126; S. Reinach, *Répertoire de peintures grecques et romaines*, p. 359, 1). Saint Augustine refers to flocks and herds as a sign of wealth (*Ep.*, 33, 5); he also remarks, however, that the poor were despoiled of their flocks for sacrifices (*Ep.*, 91, 5). In another letter he remarks that the flocks were usually kept on the hills and mountainsides (93, 19).

The quarrying of the marble of Simitthus continued to some extent during this period. It is known, at least, that the Gordians placed fifty columns of it in their Praenestine villa (*Vita Gordiani*, 32, 2) and that the emperor Tacitus presented a hundred columns of it to Ostia (*Vita Taciti*, 10, 5).

Wild animals continued to be exported to Rome as late as the time of Symmachus (*Ep.*, 2, 76; 7, 122). The elephants, however, seem to have been extinct by the fourth century (Themistius, X, p. 166, ed. G. Dindorf; Isidorus, *Etymologiae*, 14, 5, 12). Slaves continued to be exported from Mauretania (*Exp. tot. mundi*, 60).

The chief feature of industry and of commerce (except in food) during this period is the prominence of woven products. The *Expositio Totius Mundi* gives clothes as one export of Mauretania (60). There was an imperial purple factory on the island of Meninx (Djerba) in the reign of Claudius (*Vita Claudii*, 14, 8; cf. *Notitia Dignitatum* [ed. Böcking], II, 49, *procurator Bafii Girbitani provinciae Tripolitanae*, also a *procurator bafiorum omnium per Africam*). There was



also an imperial clothing factory (gynaeceum) at Carthage, as is shown by the fact that in 336 A. D. a certain son of Licinnianus who had fled, presumably from the station in society which he had inherited, and had been caught, was to be turned over to the manager of it (*Cod. Theod.*, 4, 6, 3). In 395 A. D. the same factory was being supplied with material by the guilds of Carthage, but at too high a price; an imperial rescript orders the official in charge of such matters to reduce the price (*ibid.*, 11, 1, 24). Cf. *Notitia Dignitatum*, p. 49, procurator Gynaecii Carthaginienensis Africae. African rugs were prized (*Vita Aureliani*, 12, 1). Linen tunics (*ibid.*, 48, 5) and cloaks (*Vita Carini*, 20, 6) are also mentioned. The Edict of Diocletian (*C. I. L.*, III, p. 1926 ff.) mentions several kinds of woven products from Africa which must have been objects of international trade. They are (1) African rug, 19, 24, price 1,500 den. (the denarius had fallen to about one-fortieth of its standard value) (2) Numidian birrus, or cloak, 19, 39, price 3,000 den. (3) African birrus, 19, 42, price 1,500 den. (4) Numidian "singilio," 19, 49, price 600 den. (5) African "fibulatorium," 19, 56, price 2,000 den. (6) African sagum, or soldier's cloak, 19, 61, price 500 den. (7) The price of fulling an African birrus was set at 50 den., 22, 26. Fullers are mentioned by Augustine (*Ep.*, 211, 13). He also speaks of silversmiths at Carthage (*Confessiones*, 6, 9, 14).

The number of imperial estates must have been greatly increased by such confiscations as those of Maximinus (see *supra*). An imperial rescript of 422 A. D. gives some very interesting figures (*Cod. Theod.*, 11, 28, 13). In the proconsular province the total area of the imperial estates was 14703 centuries, 85½ jugera (the century was 200 jugera), or about ⅕ of the province. 9002 centuries, 141 jugera were cultivated, 5700 centuries, 144½ jugera were not cultivated. In Byzacena the estates totaled 15075 centuries, 183½ jugera, or about one-seventh of the province. 7460 centuries, 180 jugera were cultivated, 7615 centuries, 3½ jugera were not cultivated (see Barthel, "Römische Limitation," in *Bonner Jahrbücher*, CXX [1911], 49-51). On the large or small estates of individuals little definite evidence is available. Some of the mosaics of this period give representations of large and prosperous private estates, which belonged presumably to members of the senatorial class.

The prosperity of Africa during this period seems to have followed

the course that might have been expected. The policy of the Severan emperors had borne hard upon the backbone of the economic life of the country, the municipal middle class, and that of the later emperors was ruinous to it (Rostovtzeff, *Soc. Econ. Hist.*, chs. xi-xii). The inscriptional evidence reflects the decline of the middle class clearly. Even in the reigns of Caracalla and Alexander Severus the number of gifts and dedications by individuals fell sharply, while those by towns fell somewhat. Under the succeeding emperors gifts and dedications by individuals are rather rare. Building did not stop entirely, but it was usually done by the towns. Under Diocletian and the succeeding emperors there is an unusual number of restorations of public works and of buildings of various kinds (the evidence has been collected by C. E. Van Sickle, "The Public Works of Africa in the Reign of Diocletian," in *Classical Philology*, XXV [1930], 173-9). The imperial government performed many of the restorations directly, however, and others were performed by the towns at the direction of the imperial officials. There is no evidence of anything like an economic revival.

At the same time it must be remembered that the cereals and oil of Africa were much in demand and that a large production, even if not equal to that of earlier times, must have continued. Much of this production probably was on the imperial estates. The tenants naturally did not prosper greatly. The large private estates also must have contributed a fair part of the production; their owners probably prospered, as the evidence of the mosaics indicates (e. g. *Inventaire*, II, 1, 940). These estates produced such specialty products as horses and poultry beside their cereals and oil.

Unfortunately evidence for price levels during this period is very rare. In 368 A. D. wheat bought for three solidi the modius was worth ten at Carthage because of famine (Ammianus Marcellinus, 28, 1, 17). In the middle of the third century 2,000 sesterces bought a poor inscription on a crude column, whereas in 198 A. D. 3,000 bought a well-done statue on a base with ornaments (*C. I. L.*, VIII, 2527 and 18061).

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